

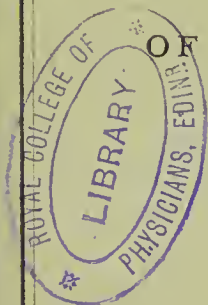




*with the Author's Compliments*

THE  
CAUSES, VARIETIES AND TREATMENT  
OF  
LEUCORRHŒA  
(THE WHITES).

A TREATISE UPON THE MOST COMMON  
OF THE MORBID DISCHARGES  
PECULIAR TO WOMEN.



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JOHN HEYWOOD,  
DEANSGATE AND RIDGEFIELD, MANCHESTER;  
AND 11, PATERNOSTER BUILDINGS,  
LONDON.  
1884.

PRICE ONE SHILLING.



# LEUCORRHŒA;

OR,

THE "WHITES."

A TREATISE UPON THE MOST COMMON  
OF THE MORBID DISCHARGES  
PECULIAR TO WOMEN.

BY

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JOHN HEYWOOD,  
DEANSGATE AND RIDGEFIELD, MANCHESTER;  
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## PREFACE.

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It may be said, and truly too, that the subject of Leucorrhœa is well and fully treated on in all the several works on "Diseases of Women." But, as Coleridge says, "Great books are not in everybody's reach; and though it is better to know them thoroughly than to know them only here and there, yet it is a good work, to give a little, to those, who have neither time nor means, to get more."

"Α οἱ φίλοι τοῖς—οὐ θαρροῦσι  
παραινεῖν ταῦτα ἐν τοῖς βιβλίοις γέγραπται."

PLUTARCH.

The advice which their friends have not the courage to give—  
is found written in books.

THE CEDARS,  
ALBERT PARK, DIDSBURY,  
February, 1884.

CARLTON CHAMBERS,  
18, ST. ANN'S STREET,  
MANCHESTER.





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THE  
CAUSES, VARIETIES, AND TREATMENT  
OF  
LEUCORRHŒA.

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CHAPTER I.

THE CAUSES.

LEUCORRHŒA (*λευκός*, white, and *ῥέω*, I flow) or “the whites” is the name commonly given to a number of discharges from the genital organs of the human female, which vary considerably in their quality, their source of origin, their symptomatic signification, and their pathological generation. So frequently are these discharges present, and so little is their true signification realised by those who are themselves the subjects, that it is frequently the experience of the gynæcologist, to find, when he is consulted for some serious uterine disease, that this symptom of the morbid condition of that organ has been present for a very long time, and has occasioned little or no uneasiness to the patient, until some accessory symptom, pain, or inconvenience, has compelled her to seek advice. “Only the whites,” is a phrase often heard from the lips of women, who are probably by their neglect of a few simple rules and precautions, laying for themselves the foundation of a life of misery and disappointment. The evolution of the highest development of the female character, the cultivation of the graces of motherhood, and the love and nurture of children—to whom, in later years, we can look to cherish and succour ourselves,—the fulfilment of the duties of wifehood, the happiness of a home, and the whole fabric of a life, may depend on a neglected leucorrhœa! How important, then, does it become, that every woman should know something of the nature of these discharges, and their true origin and signification; that she may not only guard her own health and comfort, but also, that she may spread knowledge among others of her sex who

may be dependent upon her for care, guidance, and advice? It is not only in adult life, or in the married state, that these conditions may arise; at no age can the female be said to be exempt from these troubles, from the very earliest infancy, down to extreme old age; but as the period of greatest activity of the various organs concerned in their production is that of young adult life, and in the state of marriage, so it is at this period, and in that condition, that they are most frequent. Leucorrhœa is most frequent during pregnancy, indeed, so commonly is it present during some part of this physiological condition, that it is probable that no woman passes through her whole life, at all events no married woman, without having at some time or other suffered from some variety of this flux. Dr. James Whitehead, late of this city, found that out of two thousand pregnant women, one thousand one hundred and sixteen were suffering from some form of leucorrhœa at the time of examination, and a considerable number of them, who were at that time free from the discharge, had previously suffered from it. It is extremely common to find that this symptom has appeared within a few weeks after marriage, and the question of the exciting cause becomes one of very great importance and delicacy, often involving the peace and happiness of more than one family. It is quite evident, that under perfectly normal and natural conditions no such result should follow marriage. The relations of husband and wife are natural and physiological, and no abnormal result should follow their gratification within the limits of temperate and moderate indulgence. Let us, then, endeavour to examine into the real causes of these consequences, and to point out how they may be avoided, and these injurious results prevented. It is no doubt the fact, that in certain cases the discharge which occurs soon after marriage is due to fault in the husband, and depends upon a contagion derived from some affection, perhaps latent in his system, or of which he may have deemed himself to have been cured; but in by far the larger number of these cases the causes are entirely different, and in very many depend upon conditions, which are the results of habits, and modes of life and clothing, to which women are subject; again, a strong husband exercises his newly acquired privileges with too little regard for the weakness of his more delicately-constituted companion, and the result is an over-stimulation, and excessive excitement, of the organs concerned, which is made evident by the presence

of a discharge of this nature. But even this is comparatively rare; the majority of these cases arise from causes other than these, and it becomes our duty to consider what these causes are. Probably amongst the most fruitful of these causes of abnormal secretions from some part of the genital tract, we must place the mode of female dress. While men carefully and completely clothe their lower limbs, and shield the legs and lower parts of the abdomen from the vicissitudes of the external atmosphere, women go with their lower limbs exposed, or only covered with light cotton garments; and with the genital organs, and lower parts of the abdominal cavity, with all its important and delicate organs, and its sensitive nervous apparatus, at the mercy of every wind that blows. What wonder is it that they should suffer? What man would not be ill, if on a raw, cold, gusty day in March, or a wet, foggy, shivering day in November, he were to go with nothing warmer than a thin pair of cotton drawers to shield his legs and abdomen from the weather? The real wonder to the calm and reasoning observer, is not that so many women suffer from these and other affections, neuralgia, hysteria, and a quantity of other ailments, the result of this exposure, but rather that so many seem to escape, for a time at least, the consequences of their imprudence, if indeed it ought not to be called folly. One of the first duties of the physician, who is called upon to advise the women of the present day, is to insist upon the urgent necessity of clothing the body and legs in flannel, and to strongly recommend the use of garments, of the form of what are called "combination garments," of fine soft flannel, fitting closely to the frame, and closing by buttons or loops, not left open as is generally the case.

Then again, there is the corset—that instrument of deformity which has been denounced, and denounced in vain, for years past. How any woman, who has been taught even the elementary facts of human anatomy and physiology, can ever so stultify her own intelligence as to wear these instruments, amazes me. Yet it is so. We see no marked improvement, nor much difference, if any, between the modern young lady, educated in the rudiments at least of several sciences, and sitting for examinations in physiology, and her sister of twenty or thirty years ago, who was content with French, music, fancy work, and drawing. Both alike pinch in the waist, make the figure stiff, rigid, and ungraceful as a wooden doll, confining the waist and



forcing the organs of the chest and abdomen into unnatural positions, and certainly, out of the places appointed by nature. It is not our duty here, to dilate upon the injury which ensues from the pressure of the liver and the other organs of the upper part of the abdominal cavity upwards, pushing up the diaphragm, and encroaching upon the space for the proper expansion of the lungs; but I think it is necessary, to say a few words of warning and dissuasion, based upon the very serious injury which results from the displacement downwards of the organs of the pelvis, and lower part of the abdomen.

In both sexes, the floor of the pelvis is composed of muscles and ligaments, consequently it yields and bulges when any compressing force is applied to the walls of the abdomen; it is pierced by apertures, which still further reduce its power of resistance, and prolapse of the bowel, or hernia, is no uncommon result of long-continued and forcible pressure in the male subject. But in the female it is still more weakened, by the opening of the vagina; and the consequences of such pressure, as that of a tight corset, are much more injurious than they could possibly be in the male.

The vagina is a tube, about four inches long, in the virgin, along its posterior wall, but having its anterior wall shortened, for the reception of the neck of the uterus, or *womb*, so that on that aspect it rarely (in the virgin) exceeds two inches in length. Fixed diagonally as regards the axis of the vagina, almost at a right angle to that tube, the axis of the uterus coincides, not with that of the outlet of the pelvis, but with that of the inlet; and any compression, such as that produced by tight corsets, alters not only its position (as to height or depth), but also these axial relations, which have, as we shall shortly see, an important connection with the subject of which we treat.

It must be borne in mind, that in its normal condition the uterus hangs suspended, in the midst of the cavity of the pelvis, by the broad ligaments, as a mast is held by its stays; but, unlike the latter, its base being moveable, it can be depressed, as well as inclined; in its normal and unimpregnated state, its fundus, or dome-like top, not rising, above the upper edge of the pelvic arch, but as the evolution, which occurs in pregnancy, progresses, it rises almost out of the pelvic cavity, and occupies that of the abdomen. Now this organ being so freely moveable, the effect of pressure or constriction of the abdominal walls, is to force the mass of the intestines down on the moveable

uterus, and press it downwards, and at the same time, either backwards or forwards; if the former, the position of the mouth of the uterus becomes altered with regard to the axis of the vagina, and instead of being in its natural position (at almost a right angle to that tube), is now in the same axis, while, in the latter case, the right angle becomes increased to an obtuse angle, and the axis of the uterus is either bent, or turned, until it is in a direction entirely opposed to that of the vagina. Now it must be obvious to all, that when the latter conditions exist, impregnation must be rendered almost impossible, and in the train of the sterility so imposed, will follow all the inconveniences and unhealthy actions which arise from the futile efforts of nature to fulfil her office, and to which we shall more fully allude hereafter. The physiological processes, involved in the act of generation, are too complex and too delicately adjusted to be interfered with, with impunity, and in these, as well as in the former class of cases, though less directly, the frustration of the end to which those processes are directed must result in injury to the nervous, and through them to the secretory, and even to the muscular organisation of the patient. But, it may be said, the state of things is entirely different when the uterus is pushed backwards, the axis of the uterus and the vagina are then coincident, and there can be no obstacle to impregnation. Perfectly true, yet this very coincidence becomes itself a cause of obstruction—a proof of the delicacy of the adjustment of all the organs and their functions, which cannot be altered in any degree, without risk of inducing some morbid action. It has been shown, that the posterior wall of the vagina is much longer than its anterior wall, and that it is into the anterior wall, at its upper extremity, that the neck of the uterus is implanted; the consequence of this position is that there is a large space, beyond or behind the neck of the unimpregnated uterus, which has received the name of the “Pouch of Douglas;” in the normal and healthy condition of the parts, this serves an important purpose, and by prolonging the channel of the vagina, allows the tender and sensitive uterus to escape and avoid impulses which, when the two organs are in the same axis, may be and often are, the cause of much and serious mischief. Such are some of the results of tight lacing, and surely no woman, who has once been taught, and understands the relations of these organs, and their delicate adaption to their important functions, would ever allow either herself, or

those for whose welfare she is responsible, to resort to such a practice, or to place any constriction upon the great cavities of the body, that might lead to displacement and malposition of these important organs. In a state of health, and when the body is unconfined, the uterus rises and falls with every breath, so delicately is it poised. How little then is the amount of constriction necessary to do evil ! Let our girls and young women breathe freely, and walk at liberty, with waists of healthy normal shape—oval and graceful, mobile, and yielding to every motion,—and so may we see again the grand proportions, and the grace of womanhood, perpetuated by the Greeks, true and living representations of the masterpieces of Phidias and Praxiteles.

Closely allied to the matter of dress is that of imprudent exposure ; one would think that a woman, conscious of the softer, more delicate structure of her own frame, and the more irritable and mobile condition of her nervous system, would take much greater care, and exercise more precautions against exposure, than her more robust and stronger partner—man. How rarely do we find it is so ! Women will expose themselves, with parts of their body insufficiently covered, to the coldest blast of winter ; will pass from heated rooms to cold draughty corridors or open balconies in low evening dress ; will go out in slippers or low shoes, in wet or snowy weather, and sit in draughty carriages ! They will drive in open vehicles, with faces exposed, except for a thin veil, to winds, from which man protects himself by mufflers and comforters, and will generally disregard the precautions which are found necessary, and carefully taken, by men. Even while menstruating, women have been known to proceed on a cold frosty day, on skating and other expeditions, which if the conditions of their dress just described be borne in mind, must seem a foolish and almost suicidal courting of evil. The same remarks will hold good as to exposure after confinement ; it is a source of foolish pride for women to get up, and go about their work, within a very short period after the birth of the child, and no course is more likely to be followed by serious and lasting injury, or more dangerous to her well-being and safety. During the ten days, or fortnight following a confinement, the lochial discharge being present, and the vessels of the relaxed uterus patulous, all exposure is dangerous in the highest degree, and although there are some cases, in the lower classes of life, and especially among uncivilized or but partially civilized peoples,



where there can be no doubt that women have been able to move and go about their ordinary duties within a few days or even hours after delivery; yet it must be remembered that these are altogether exceptional, and no guide at all to the power of women in highly civilized and artificial modes of life; and further, that even of those that do take place we have no accurate evidence as to the proportion of deaths to recovery, nor of the state of these women in after life, as to the presence or absence of uterine disease or leucorrhœa. It is a wise precaution always to remain in bed over the ninth day after confinement, not because there is any truth in the old woman's doctrine as to that particular day, but because it ensures rest for the wearied and distended uterus, for at least that time; and great care must be taken to avoid exposure during the whole of the parturient month. During all this period, the uterus is undergoing what is called involution,—that is to say, is contracting, becoming less in bulk, its vessels smaller in size, and its whole mass diminishing, and not until it has reached to very nearly its pristine condition, can the patient be considered to be actually and really safe.

It is necessary here, also, to mention certain practices, much more common in America, and on the Continent of Europe, but not altogether unknown amongst ourselves, by which it is sought to limit the number of children born into a family, or to entirely prevent conception. It is by no means a light thing, or a practice immaterial in its results, to habitually defraud nature of her expectations, and a knowledge of the condition of the women of France and America, where these means are largely practised, shows them to be especially the subjects of uterine diseases, and the nervous affections which are so intimately allied therewith.

While, therefore, even this comparatively simple and innocent means has, as its sequel and consequences, such conditions as those hinted at, rather than described, above; yet much more directly and immediately injurious are those mechanical or chemical means, which aim, in a clumsy and coarse fashion, to arrive at the same end. It is not necessary here to go into this part of the subject in any minute or repulsive detail. Suffice it to say, that these measures, and those even more to be deprecated, which aim at the destruction of the ovum, after conception has occurred, are in those countries, where they are commonly practised, fruitful sources, not only of the special forms

of disease of which we are now treating, but also of those organic lesions, of which some forms of leucorrhœa are but one symptom.

Still another practice there is, which can only be vaguely alluded to, which affects unmarried women chiefly, as a productive cause of these forms of disease ; but which is known to the student of mental diseases as one of the most terrible of those hidden ulcers, which eat into the health of both sexes, and beneath the fair-seeming surface of society, are destroying manliness, womanhood, and all that renders life worth living, for the wretched subjects themselves, or preserving for the sake of the general community.

Errors in diet, and neglect of the laws of hygiene, are frequent causes of these conditions in the young, delicate, nervous women of our centres of civilization. The want of sufficient and proper exercise in the open air (the restrictions imposed by the style of dress being here again a great obstacle to full and healthy development) has been, in past times, a great and frequent cause of the conditions which eventually lead to these results. Much has been done in late years to improve the condition of our girls in these respects, and "Lawn Tennis" and the "Gymnasium," with dresses so designed as not to impede free motion, and to allow room for the development and expansion of all the organs, have done much already, and may be expected to do yet more, in the ensuing generation, to produce a better physical type, and to render the neurotic, excitable, hysterical woman, so common in our great cities, and so essentially the product of our high-pressure existence, as much a rarity and a wonder, as would be to us now, the stalwart, strong-minded, stout-limbed women of the days when good Queen "Bess" provided strong ale and beef for the breakfasts of her maids of honour.

## CHAPTER II.

### THE VARIETIES OF DISCHARGE KNOWN AS LEUCORRHŒA.

THE whole tract of the female genital cavities, from the entrance of the vagina, along its whole length, the external and internal surface of the neck of the uterus, its whole internal cavity, and the interior of the Fallopian tubes, until it joins the peritoneum (which is reflected on the outer wall of that tube), is covered by a soft secreting mem-

brane, the mucous membrane, the office of which is to keep up a certain moderate and normal moisture of these parts. The natural and ordinary moisture is liable, under the influence of emotion, excitement, or irritation, to become considerably increased. There are also found about the orifice of the vagina, a number of sebaceous and muciparous glands, serving a very important purpose in the mechanism of generation, and liable, under the stimulation of undue excitement or irritation, to have their secretion morbidly increased, and altered in character. A tract so extended, and consisting of parts, whose functions are markedly differentiated, will be readily understood to be liable to affections, differing in their character with the seat and nature of the irritant action, its causes and condition. Thus it is by no means an uncommon experience, to find a newly-born female child to be, a few days after birth, suffering a thick copious yellow purulent discharge from the external organs of generation, accompanied by great swelling, redness, heat, and pain of the affected parts—a form of congenital leucorrhœa, in all respects analogous to the severe affections of other mucous tracts, which so frequently develope themselves within a short period after birth, and which are to be attributed to an infection from the discharges of the mother. The ophthalmia neonatorum, which is so frequent a cause of blindness, is of this nature, and not always to be traced to a gonorrhœal origin, though the opinion has been hazarded, that severe cases are of this specific character. The inflammatory condition in these cases is usually limited to the vulvæ and entrance of the vagina, and it is from the muciparous, and other glands, which stud the entrance of this orifice, that the thick tenacious, often fœtid, discharge is derived. Other forms there are, generally occurring in children, when a similar but less severe affection is the result of irritation from ascarides, or seat-worms, which are apt to find their way from one orifice to another.

#### VULVAR LEUCORRHŒA.

These forms are usually classed under the name of purulent vulvitis, but the inflammatory process is not in all cases confined entirely to the vulvæ, but may also involve some portion of the vagina, forming a vulvo-vaginitis. Another form of affection of the vulvæ, is a follicular vulvitis, not confined altogether to children, or even to the unmarried female, involving the numerous glands and follicles with

which the entrance of the genital passage is studded ; these are the seats of inflammatory action, and a too minute pathology has endeavoured to separate this class into several sub-classes, according to the particular set of glands affected. This is, however, quite unnecessary, although it is quite true that in some cases the large vulvo-vaginal glands are liable to be the seats of a definite inflammation, affecting their own structure only ; yet this condition has no very important pathological signification, and tends usually towards a process of resolution, and scarcely comes within the scope of our present subject. In a similar way, also, the gangrenous vulvitis, or noma-pudendi, which is, like its congener cancrum oris, so rapidly fatal a disease of infancy, is scarcely within the circle of our study. Although gangrene is one mode of termination of the inflammatory process, yet in this particular form there is too much evidence of a special epidemic or constitutional character to allow us to consider it as merely a sequel of an ordinary inflammation. The exciting causes of the purulent vulvitis are *Firstly*, as I have said before, direct infection from a purulent leucorrhœa in the mother, which is known not only to produce this particular form of mucous inflammation, but also inflammation of other mucous membranes, as the eye, the ear, the urethra, of the male child, and the mucous membrane of the nose, and of the anus, and that the exciting, or infecting fluid, need not be gonorrhœal in its nature was proved by Dr. J. Whitehead, who relates in his work on "Abortion and Sterility," that he placed a quantity of purulent matter, taken from an ulcer of the neck of the uterus, under the eye-lid of a terrier dog, with the result of producing an inflammation resembling, in all respects, that of ophthalmia monatorum ; *Secondly*, from extension from a vaginitis, a cause which we shall consider later on ; *Thirdly*, want of cleanliness, irritation from worms, or from mechanical or chemical irritants, or from eruptive disorders. Among the mechanical irritants, we cannot exclude, even in the case of very young children, those habits to which we have alluded before ; but the more frequent case is, that the irritation of the parts leads to the formation of the habit, and it may be cured by the cure of the condition which gave it origin. These forms of what may be termed vulvar leucorrhœa, are all characterised by an abundant viscid secretion, the product of the many and various glands with which the part is furnished ; it forms crusts about the pudenda, is often foetid in odour,



and glues the parts together. When this condition is specific in its origin, as from a gonorrhœal contagion, it is rarely confined to the vulvar parts, but invades also the mucous membrane of the urethra, and the higher parts of the genital tracts ; indeed, whenever any form of these conditions arrives at a high degree of intensity, it is rarely confined to the limits we have assigned ; limits, it may be said at once, more a matter of convenience for description, than of actual or clinical significance. For a vulvitis may extend, so as to become a vulvovaginitis, or a vulvo-urethritis, or a vaginitis may extend, and involving the cervix, or even the cavity of the uterus itself, become a vaginometritis. Whenever parts are continuous, as these are, or even closely contiguous, an inflammatory action, commencing in one part, may extend and involve the other. An inflammation of this kind is not an unfrequent sequence of marriage ; and it may, as may also any of the other forms of these affections, lead to a condition of vaginismus, a very distressing symptom, in which the slightest touch of the parts, as with a feather, or by the clothing, will lead to a spasm of the sphincters, which is not only painful in itself, but as an obstacle to conjugal rights, is often the cause of domestic unhappiness. Sometimes this is due to a chronic form of vulvitis, with excoriations of the surface. When there exists the latter condition, Dr. Matthews Duncan advises the use of the actual cautery, or of strong nitric acid ; but in ordinary cases, it is sufficient to apply cool and soothing applications, as cold cream, or a mixture of glycerine and liq. plumbi ; after removing any irritable parts of the ruptured hymen, that may be seen to distend the vaginal canal to its utmost extent, under anæsthesia if necessary, and afterwards to keep up the distention by large bougies or “Sim’s” glass dilators. It is sometimes advisable to take away all the portions of hymen, and even occasionally to cut through some of the fibres of the sphincter to allow the parts to rest. A careful management, within a reasonable time after the symptom has manifested itself, will save the patient much suffering, both mental and physical, and will be a credit to the practitioner, from a class of cases often mismanaged or overlooked. Another very distressing symptom connected with the part of the genital tract of which we are now treating is “pruritus vulvæ,” an intolerable itching of the parts concerned, which is frequently a consequence of the condition of the vulva, of which we have been

treating, but also may follow any form of leucorrhœal discharge. It is also not uncommon in pregnancy, or in the early stages of uterine cancer, and it is sometimes dependent upon diabetes, or a gouty diathesis. Here, of course, we have to deal with it as a sequel of leucorrhœa in some of its forms, and, as a symptom of a very distressing and sometimes very obstinate character, when very severe, making life a burden to the unfortunate sufferer, and leading her to hide from all society, and sometimes ending in despair, and loss of hope and reason. Fortunately, however, cases of this degree are scarce, and it is in general amenable to treatment, judiciously selected and perseveringly applied. The examination of the condition of the urine should never be omitted in these cases, and if the presence of sugar be proven—the means adopted for reducing its quantity, by dietetic measures—for it must be remembered, that not only is this ingredient a symptom of a grave character, but it also affords a pabulum for parasites and the growth of low organisms, which are themselves a frequent cause of the nervous excitement, of which itching is a sign. The measures to be hereafter mentioned, must be used to remedy the leucorrhœal symptoms present; and as a means of preventing the continued irritation from the discharge washing over the irritable parts, a plug or tampon of some absorbent material—as lint or cotton wool, which has been rendered antiseptic by solution of carbolic acid, iodine, or salicylic acid—or, what I prefer myself, by soaking in a strong solution of *borax* and then drying, may be applied. This is especially required, when the discharges are vaginal or uterine in their origin, but in all cases, much relief is obtained from the use of washes of *borax*, either alone or combined with opium or morphia. The greatest cleanliness should be exercised, and, in using these means, it is preferable not to use soap, but demulcent washes, such as infusion of elm bark, oatmeal, bran water, decoction of rice, or almond meal, which latter often affords marked relief, probably from the development of hydrocyanic acid. If *ascarides* be present they must be destroyed by the means ordinarily employed for the purpose; an enema of quassia, or a lotion of carbolic acid will be an efficient parasiticide, and should be followed by tonics, iron and quinine, or cod liver oil. If there are pediculi, a lotion of bichloride of mercury will speedily remove them and their nits, or if acari are

present sulphur may be used. When these cases occur in stout, florid women approaching their grand climacteric, the dieting becomes an important means of treatment, and ale and porter, or strong wines must be forbidden, the amount of flesh meat consumed reduced, and the use of potash salts, in the form of some of the mineral waters, Vichy or Carlsbad, and sub-acid fruits may be advised with benefit. It is seldom that fatty preparations are of much value in these cases, but an ointment of vaseline, or some of the hydro-carbons of the same kind, sold under different names, with a combination of acetate of lead, opium, or morphia, and hydrocyanic acid, is not unfrequently useful, or the same with chloroform (ʒi. to ʒi.) Brushing over the parts with solution of nitrate of silver, in spirits of nitrous ether, (2 to 5 grains to fl. ʒi. often answers better than stronger) is also of benefit, and the administration of the bromides of potassium or ammonium, or both, is sometimes useful. Chloral as a hypnotic, or in some cases in the form of a lotion, is also useful, and in some cases the Turkish or hot air bath is of service. Lotions of cyanide of potassium are often valuable. Infusion of tobacco (ʒss. to Oi.) will in some cases afford relief, used as a lotion; and so in some cases, will a weak solution of bichloride of mercury. Codeia, aconite, atropine, and cannabis indica, all have their places in the treatment of these cases, which will sometimes resist them all. But the most generally useful and beneficial of all these means has been, at least in my hands, the use of *borax*, in strong solution, and great attention to cleanliness; the dusting with oxide of zinc, bismuth, or powdered alum, and acetate of lead. Other such measures have all their value, but the practitioner will be the most successful who most carefully seeks out the exciting cause of this condition, and devotes himself to the removal or amelioration of that; rather than he who devotes his attention more particularly to the relief of the "pruritus," which is but its sequel and consequence.

I have gone into the detail of treatment here in the cases of "pruritus" and "vaginismus," as I judged it better for the clearness of my paper to deal at once with these affections, as involving especially those parts of the genital apparatus of which I am now treating. It will be sufficient to mention in this place that no empirical formula, nor stereotyped routine of treatment, is of so



much avail in these cases as the knowledge which comes almost instinctively to the physician who has had much experience in female diseases, of judging from the temperament, and characteristics of the patient, the class of remedies which are most likely to be of value; a kind of knowledge which involves a just and accurate diagnosis, a clear perception of the modifications of constitutional predispositions, together with a certain tact,—we might almost term it a “*tactus eruditus*”—which only comes of observation and experience.

The vulvular discharges, which are so frequently seen in children between the age of two and eight years, though also by no means uncommon during the earlier period, (when they are usually, the accompaniments of an irritable dentition), are usually, when severe, of a vulvo-vaginal character. No doubt vulvar in their origin in the earlier state, they rarely continue for any considerable length of time confined to the external parts, but are sure to extend beyond the hymen and affect the interior of the vagina. The children affected are generally delicate, strumous girls, often ill-fed and ill-kept, suffering from ascarides, and not unfrequently having incontinence of urine; sometimes the subjects of skin diseases, eczematous or herpetic, and in some cases with a history of direct peripheral irritation as from cold, through sitting on damp ground or cold stone, without any covering on the parts in contact. If seen early in the case, the discharge is profuse, and the parts red, hot, and swollen, and it not unfrequently happens that there is suspicion of ill-usage and contagion; and most unfounded charges have been made by relations of girls affected in this manner against perfectly innocent men, and have unfortunately not in all cases been at once disproved by medical evidence. I do not propose here to go through this subject in any degree at length, as it is better considered in its proper place—the study of medical jurisprudence. But it will be as well to point out, that although it is difficult, if not impossible, to distinguish a gonorrhæal from a mere leucorrhæal affection, yet the circumstances of the case will usually throw some light upon the truth of the charge. Thus it is in the greatest degree unlikely, that such a condition should arise, from infection in a child, without some violence,—at the very least, quite sufficient to leave unmistakeable marks behind it,—having been used; and if that was the case, the complaint would have been made immediately, and the case brought under notice at a time when



error could scarcely occur. If, however, instead of this, we find the disease well established, either the date of the occurrence will be manifestly out of agreement with the facts and course of the disease, or the fact that no complaint was made until long afterwards will throw grave doubt upon the truth of the charge. The question is often a difficult one for the practitioner, and as women of the class usually concerned in these charges, are apt to, perhaps almost unconsciously, instruct a child as to its replies to questions on this point, he must not too readily accept all that is said, but form his own judgment coolly from the *facts*, not merely from the assertion either of the child or its relatives. In cases of long standing there is often considerable irritability of the bladder, and pain during micturition, and sometimes abrasion of the mucous surfaces, and a granular condition of the abraded surface. The treatment must be the use of all possible means of cleanliness, washing the labia well, and then, after drying, smearing them with an ointment of vaseline with liq. plumbi, and repeating the washing and application carefully night and morning. Placing the child in a hip-bath, to which an ounce or two of bicarbonate of soda has been added, is often useful, the discharge being in these cases generally acrid and irritating. Astringent lotions of acetate of lead, of alum, or of sulphate of zinc, are often of great use, and occasionally tannin may be useful, or the parts brushed over with a weak solution of nitrate of silver. If there is much irritability, infusion of poppy heads is useful. Whenever the lotions above mentioned are used, it must be with great care and gentleness, and they are best applied with an ordinary syringe, used from a little distance away. A form of the disease is seen in feeble, weakly children—where there is but little inflammatory swelling and the discharges are thin and there is little pain, the affection seldom extending beyond the hymen—here there is much less likelihood of any mistake arising as to its true nature; and as it is evidently strumous in character, so must it be met with the constitutional and hygienic measures necessary in such cases. Tonics, quinine, iron, cod liver oil, the syrups of the hypophosphites, Parrish's chemical food, nux vomica: these, with fresh air, sea bathing, and the means we have indicated above, will sufficiently explain the line of treatment to be followed in these latter cases, which are apt to be chronic and slow in their progress, and to re-occur after apparent recovery. In these cases,

Dr. West recommends the administration of copaiba and liq. potassæ in small doses, followed by iron in some form, and the use of astringent lotions.

It is in all cases a good plan not to allow the child to walk about without a sheet of cotton, wool or carded cotton, (antiseptic cotton by preference), which is to be so placed between the vulvæ as to absorb the irritating discharges. When the discharge has been sufficiently reduced in quantity to allow the use of astringent powders, they are often useful and comforting. When, as is not unfrequently the case in hospital practice, there is associated with this disease an eczematous condition of the skin, the use of the ungt. hydrarg. nit. mitius, in combination with liq. plumbi, and if there is much irritation, also with opium or morphia, has been of great value.

It has been recommended (*Journal für Kinder-Krankheiten*, xxxiii., 270) to use glysters of colocynth in this affection, but the measure seems a very heroic one, and I have not yet seen a case where I felt called upon to use it.

We now come to consider the purulent vulvitis of adult life, the nature of which has, I hope, been rendered sufficiently apparent by the remarks made in introducing the general subject of these discharges to render much further explanation necessary. This may be due to specific causes, or it may be simple, arising in the latter case from one of the causes previously recounted. The symptoms are heat, pain, redness, and swelling of the parts affected, which are in the first instance dry and glazed in appearance, but shortly become bathed in a profuse purulent discharge, which stains and discolours the linen; after a time, it may be found that the mucous surface has become abraded, and is studded with small superficial ulcers, the parts are exquisitely tender, and there is pain and difficulty in passing water. The inflammatory action may involve the meatus urinarius, and to some extent the mucous lining of the urethra, even occasionally extending to the bladder itself, and then of course developing the symptoms characteristic of cystitis. In the severe cases there are, of course, in addition to the local symptoms, some signs of general constitutional disturbance, rise of temperature, thirst, irritability of skin, sometimes pruritus, lassitude, pain in the back; sometimes there is enlargement and tenderness of the glands of the groin. The prognosis in these cases is favourable, and under judicious treat-

ment and rest they usually run a speedy and uninterrupted course towards recovery. The treatment consists of rest in bed, upon a low diet, and free evacuation of the bowels by means of saline aperients. The use of cooling emollient applications to the inflamed part, bathing freely with warm water, or emollient and soothing infusions as of poppies, of the slippery elm, or rice, bran water, almond powder, or poultices of linseed or potatoes, &c. ; and if more grateful these latter may be used cold, and mixed with liq. plumbi, and opium, either powder, tincture, or infusion. Pledgets of lint soaked in a lotion of lead and opium should be kept between the vulvæ, and after extreme irritability is subdued, the surface of the part may be painted with equal parts of glycerine, and of a solution of persulphate of iron, or with a solution of nitrate of silver (gr. x. to fl.  $\frac{3}{4}$  i.), and afterwards, as the amount of discharge diminishes, the surface may be dusted with powder of bismuth, starch, oxide of lead, or calamine.

It has been already stated that as in general vulvitis the various sets of glands which stud the orifice of the genital tracts, are involved in the inflammatory action ; so we may have cases in which these glands alone, or only one particular set, may be involved. To divide this affection into as many subdivisions as there are varieties of glands to be affected, seems to me to be an unnecessary and useless elaboration, and I propose, therefore, to include them all under the term of follicular vulvitis, premising, however, that a single set, as for example the muciparous, the sebaceous, or the piliferous glands may be alone involved, or the whole body of these may be included in the morbid actions.

The inflammatory affection of the vulvo-vaginal gland has been already mentioned, and it varies in its treatment only as the treatment of a larger gland differs from that of much smaller ones ; and with this remark may be left without further distinct notice, as included in the general remarks to follow. The symptoms of these affections are burning, itching, and heat of the vulvæ, with an often offensive and acrid discharge from the affected glands, scalding from the affection of the urinary meatus, and general hypersensitiveness of the parts, which by no means unfrequently, results—if the patient be married—in vaginismus. On inspection, the mucous membrane of the affected part is found studded with intensely scarlet patches, which, if the



muciparous glands be those affected, are mostly found on the lower part of the entrance to the vagina, above the hymen or its remnants, and the nymphæ, giving the parts something of the appearance of the tongue in scarlatina.

If the sebaceous or piliferous glands are those concerned, the red patches are larger and form prominent papules on the labia majora and minora, and about the base of the præputium clitoridis, in other words, a position more external and anterior; while the former class are more deeply placed, and involve chiefly the posterior parts of the genital fissure. The papules speedily acuminate and form pustules; these burst, a drop of pus escapes, and the pustule shrivels. The most frequent causes of these conditions are pregnancy, neglect of cleanliness, vaginitis, exanthematous or other eruptions. Of these the first named is decidedly the most frequent cause, and when that is so, it is generally the case that the disease subsides, when the condition to which it owes its origin is ended. The general lines of treatment are those laid down in the foregoing cases; great attention to cleanliness, with the use of cooling and emollient applications to the part. Poultices, warm or cold, as may best suit the feelings of the particular patient, demulcent washes—lotions of borax, lead, opiates, or hydrocyanic acid, or a combination of these, and later, when most of the irritation has subsided, astringents, or the application of solutions of nitrate of silver, or in some cases touching the larger follicles with a point of the solid nitrate. Ointments of vaseline, or cacao butter, with morphia if there is much irritability, chloroform, hydrocyanic acid, or the cyanide of potassium, &c., are all useful. Dr. Thomas, of New York, states that he cured a case of twenty years' standing "*by dissecting off the whole mucous lining of the vulva*;" but I should hesitate about counselling such a proceeding, even in a case of so long standing, and it is very seldom that the measures indicated above will not be sufficient, after careful and patient attention to the rules of hygiene and cleanliness, to relieve the most persistent of these no doubt often troublesome cases. The most tedious and obstinate of cases, not only of this particular affection, but of all diseases of these organs, are those which have been intensified by neglect in the early and more manageable stages. It is often the case that a false, or at least misplaced modesty, will prevent a woman from calling the attention of her medical adviser to her condition until increasing pain,

discomfort, or other complication, compels her ; and then too often it is to find that a condition perfectly curable at first, has become by neglect chronic and complicated by other conditions, frequently such as re-act and intensify the original disease, and these matters have gone on from bad to worse at a mathematically increasing ratio.

It cannot be too strongly insisted upon, nor too often dinned into the ears of our female patients, that a discharge—"only a little whites"—is always a sign of disease. It may be but slight in its first origin, but it may rapidly assume a very great importance, pathologically and socially, for in these cases it is to be borne in mind that physical derangements may, and do often mean, or lead eventually to, moral and social disturbances ; and therefore, on this ground especially, no care can be too great to prevent the small origin which, like the half-inch deviation where the railway tracks separate, may lead to termini so widely apart.

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### CHAPTER III.

#### VAGINAL LEUCORRHŒA.

PROCEEDING onwards in anatomical order we commence to consider the origin and nature of leucorrhœas which affect chiefly the vaginal mucous membrane, and although it cannot be said of these that they are peculiar, or confined to married women, yet they are more frequently found in the married, and especially in pregnant women. The discharge in cases of vaginal leucorrhœa is generally milky white in colour, with flakes of epithelial *débris* floating in it, giving it something of the appearance of thin butter milk. It has an acid reaction, and under the microscope is seen to consist of an exaggerated secretion of the natural mucus of the part, with large quantities of epithelial cells from the vaginal mucous membrane, many of which are filled with fat ; and oil globules abound, probably the remnants of other cells which have entirely disappeared. Sometimes, if the affection be very severe, or has been of long continuance, we find pus cells also present in the discharge, which then assumes a yellowish tint, and on examining the internal surface of the vagina in these cases we shall

find portions entirely denuded of its mucous epithelium and covered with suppurating granulations. The former, which may be looked upon as a vaginal catarrh, is the form most frequently found in young married women. The latter condition is usually seen in cases which have been of long standing, and in women approaching change of life.

As inflammation of other mucous surfaces produces first an increased secretion of their natural mucus, and afterwards cell changes and proliferation produce changes in the character of that discharge; and finally, the surface becoming denuded of its proper epithelial elements, pus appears, and a granular condition of the affected surfaces; just as bronchitis, nasal catarrh, urethritis, and all other inflammatory affections of mucous surfaces pass through the stages of increased secretion, alteration of secretion, proliferation and destruction of cell elements, denudation and secretion of pus, so does inflammation of the vaginal, and uterine mucous surfaces.

The two surfaces may be attacked at the same time, but more frequently, it is by extension from one to the other by continuity, and more frequently perhaps by extension from the uterine to the vaginal cavity; because the products of the inflammation of the former drop continually into the vagina, and these in process of no long time set up their own special irritation, and propagate the exciting causes of extended inflammation. But here is not the place to speak of this form of leucorrhœa, and therefore we pass on to consider the form which just now occupies our attention. Suffice it to say that a similar effect is seen in other parts, when the products of inflammatory processes continually fall upon, or wash over previously healthy surfaces, as in the sore lips often seen in children, with neglected nasal catarrh, when the rhinorrhœa leads frequently to papular or vesicular eruptions on the lips and cheeks.

As a matter of clinical fact, there are really two distinct kinds of inflammatory affections of the vagina. *Firstly*, a vaginitis involving only the mucous surface and analagous to the catarrhal affection of the mucous membrane of the nose, or other passages which communicate with the external atmosphere, and are therefore liable to sudden changes of temperature and other peripheral disturbances, which are the exciting causes of vascular and nutritive alteration. This form is the one to which our previous remarks in this chapter are applicable; but just as there is a deeper and more parenchymatous inflammation of

the mucous covering of the eye-ball, producing the more serious varieties of ophthalmia, so is there a vaginitis—or I may say, and still preserve the analogy—so are there, inflammatory affections of the vaginal surface involving deeper structures. It will be convenient to treat of this particular form before proceeding to consider the more usual, and less acute form, to which more properly, and probably originally, was applied the word “whites.”

Simple vaginitis, then, is by no means an unfrequent sequel of marriage, or it may arise from exposure to cold or damp, especially during or soon after a menstrual period, or a pessary or sponge too long retained may be the cause, by means of the irritation they cause in themselves, or by causing the retention of discharges which may afterwards putrefy, or there may be morbid conditions of the blood or other fluids, and in addition to these, mechanical or chemical causes. The symptoms are pain and heat in the part affected, aching and weight in the perinæum, irritability of the bladder, and frequent desire to pass urine, profuse purulent leucorrhœa, often fœtid, excoriation of the vulvæ and pain in the pelvic region. In a severe case the labia are tense, swollen, and red, their inner surfaces often bathed with pus; there is often vaginismus, and almost always pain on the insertion of the fingers for examination purposes. At first the parts are dry, but after a period of fifteen or thirty hours from the inception, they become covered with a discharge of pus, which speedily seems to undergo degenerative or fermentative changes, and becomes acrid and foul. After the lapse of a week or ten days, the acute stage is passed, and the discharge becomes muco-purulent, and amid the *débris*, epithelium cells, pus, and a few blood corpuscles, we find infusorial animalculi described by M. Donné, and named by him the “*Trichomonas Vaginalis*.” There is another cause of this condition, or perhaps it will be more correct to say, another condition not to be distinguished from this by its symptomatology, but due to a specific cause, the infection of gonorrhœa. It has been said that the fact of the inflammation extending to the urethra is a proof of its gonorrhœal origin; but the truth is, that there is no symptom that can be called pathognomonic of this state; though, when the case is very severe, it is very probably of this nature, especially if the urethra is affected, and still more especially if after leaving all the other parts of the organism, we still find a little pus in the urinary meatus, or to be pressed from the urethra, by



drawing the finger forward along its under surface. But it is from the history of the case that we must judge of its nature, and there will seldom be wanting some collateral evidence to assist us in coming to a decision. This particular form of vaginitis is very apt to affect and lurk as it were, hidden away, in the *cul-de-sac* behind the neck of the uterus, called Douglas' Pouch, and a woman should never be pronounced to be free from the disease, until we have convinced ourselves that there is no remnant of purulent matter, or inflammatory action, still existing in that part of the genital tract. The points in the history and symptoms of a case of vaginitis that will lead the physician to suspect a gonorrhœal infection may be recounted as follows.—*Firstly*, if the attack develops soon after congress, in a woman previously free from vaginal discharge; *secondly*, if the attack be very acute and the inflammatory symptoms severe; *thirdly*, if the urethra is markedly and early involved with heat and pain in passing water, and if the discharge persists in the urethra after disappearing from other parts; *fourthly*, if the purulent discharge is copious, and particularly persistent in the parts behind the neck of the uterus; *fifthly*, if it is conveyed, and then develops the well-known symptoms, in the male subject. Yet even if all these be present it does not amount to absolute proof. Professor Thomas, of New York, states that he has “seen them all attend cases of vaginitis excited by the accidental contact of chromic acid with the vaginal walls.” These severe forms of vaginitis carry with them dangers peculiar to themselves, as well as the ordinary risks of other inflammatory conditions in contiguous parts; thus there may ensue as complications, bubos or vulvar abscesses. The inflammation may extend along the urethra to the bladder, inducing cystitis, or along the cervix to the cavity of the uterus, producing endo-metritis, or even along the Fallopian tubes, producing salpingitis or pyo-salpinx, or even to the peritoneum itself, producing fatal peritonitis. Dr. James Whitehead believes that gonorrhœal infection is more frequently the cause of an uterine, than a vaginal inflammation. A form of vaginitis called granular has been described by Ricord, but its existence as a distinct form of disease has been denied, and the appearance described by Ricord and his followers has been attributed to hypertrophy of the vaginal papillæ, consequent on one of the forms of vaginitis just described.

The treatment of these forms of vaginitis is so nearly the same



that it is more conveniently described at once, than under each separate form, and any variations needed by the particular variety under treatment, may be suggested as we proceed with the general description of the means to be employed. Thus, in all acute cases, rest in bed should be strictly enjoined, and of course all sexual excitement avoided. Pain and irritation should be allayed by opiates or by anodyne suppositories; frequent lavements of warm solutions of starch, infusion of linseed or slippery elm, rice water, or other demulcent or soothing applications, such as poppies, or a mixture of these with solution of morphia, opium, hyoscyamus, &c., should be frequently used, and the whole vagina washed out with a full continuous stream every six or eight hours. As soon as the acute stage has passed washes of acetate of lead, or liq. plumbi., or of sulphate of zinc with opium in very weak solutions, but plentifully used (3 i. to a gallon); later on the applications may be stronger, and alum, persalts of iron, tannin, or oak bark may be usefully applied; the bowels must be kept loose, and the thirst, and heat of the urine, and scalding, reduced by potash salts, by draughts of soothing demulcent drinks, of lemonade and the sub-acid fruits—lemons, limes, oranges, grapes, &c. Occasionally bleeding by leeches to the perineum may be useful. When the case assumes a chronic form the application of a strong solution (3 i. to 3 i.) of nitrate of silver, applied by means of the speculum, to the vaginal mucous membrane is useful, and the application of a roll of lint soaked in glycerine to the cervix is valuable by producing a free discharge of fluid therefrom, and relieving congestion. Astringent suppositories are used with benefit in this stage, and the ferric and other tonics are usually called for by the general condition. The duration of the acute stage of purulent vaginitis varies from six to ten days, when it is succeeded by a condition of less active, vascular and nervous disturbance, of a duration which is apt to be very variable. If, however, there be no complication or extension involving the Pouch of Douglas, the cervix, or internal surface of the uterus (which in Dr. Whitehead's opinion, is always concerned in the gonorrhœal form of disease), or of the urethra, we may hope for a recovery in about three weeks or a month. It is possible, but hardly probable, that an overlooked pelvic abscess may have burst and found its way into the vagina, the pus of which may simulate the discharge from

a vaginitis, and if such a thing should happen, the presence of pus will be sufficient, before it has continued any very long time, to bring on an inflammatory condition of the vaginal mucous membrane, even though such a condition did not previously exist. The diagnosis is not very difficult. Of course, before the abscess has reached the stage at which rupture would be imminent, there would be the constitutional signs—hectic flushings and perspirations, &c.—to arouse suspicions and lead to examination, and on digital vaginal and perhaps rectal examination, the tumour of the enlarging abscess could scarcely escape observation.

To return now to the true vaginal leucorrhœa, the characteristic mark of which is the discharge, often profuse, of a white curdy fluid with flocculi, and a distinctly acid reaction, to which is applied *par excellence* the term “whites.”

It may arise from a condition of what has been called catarrh of the organ affected; that is to say, a degree of vascular excitement of the mucous membrane sufficient to lead to a greatly increased secretion of mucus, without producing actual inflammation of the parts, just as a catarrh will cause a copious discharge from the nose and eyes, without producing an actual inflammatory condition of those organs. In these cases, however, the effect is but temporary in the case of the vaginal, equally as in the case of the nasal catarrh. Whenever the flux persists, and most certainly whenever purulent elements are present, there is a morbid condition involving greater changes, and calling for a more careful and extended examination. The researches of Dr. Tyler Smith into the composition of the discharge in vaginal and uterine leucorrhœa have shown, that in the former case the elements present are an acid plasma, scaly epithelium, pus corpuscles, blood globules, and fatty matter; and under the microscope the distinction between these discharges and those from the uterine cavity are very distinctly marked. There is usually in these cases a feeling of aching and constriction around the lower part of the body, œdema of the extremities, and sometimes of the face, great lassitude, and if it has been of long continuance, a general appearance of anæmia, with palpitation and wasting. These marks of suffering, from what the old writers called the *fluor albus*, are noted by Hippocrates, and many of his remarks are of value to the present day. The vagina is usually relaxed, and to the touch has a coolness,

in marked contrast with the hot, irritable state of the condition of acute vaginitis just described ; and there is often some oedema and itching of the vulvæ. It is in this form of leucorrhœa especially, that we find the value of injections and lavements, in the earlier stages, and the measures mentioned in the treatment of vaginitis may be employed ; but in the latter, astringent washes—solution of alum, tannic acid, sulphate of zinc, acetate of lead, infusion of oak bark, or other astringent washes, may be employed, together with the administration of tonics, more especially the preparations of iron, with a generous but not over exciting diet. The application of a solution of nitrate of silver in the proportion of twenty grains to one pint of distilled water injected into the upper part of the vagina, so as to apply it thereby freely to the whole internal surface, is often of great value. It must be borne in mind that these injections will indelibly stain the sheets or linen with which they may come in contact, and precautions should be taken accordingly. It may sometimes be advisable, in preference to using this as an injection, to apply a somewhat stronger solution by means of the speculum, with a sponge or tampon, to the vaginal mucous membrane. The regular use of a solution of borax, with Condyl's fluid if it be considered advisable ;—but I have found that ladies will prefer a colourless fluid for purposes of injection to those deeply coloured and liable to cause stains upon the linen, and I am by no means sure that any good object is attained by the use of Condyl's fluid in this place ; the borax is itself a very powerful antiseptic, and its alkalinity is of much value in counteracting the irritating acidity of the vaginal discharge ; whereas the touch of the same discharge at once decomposes the permanganate of potash, and all its effect is obtained from the liberation of nascent oxygen, which unites with the disintegrating elements of the decomposing fluids. The action of boraxis therefore likely to be more lasting, that of the permanganate more immediate ; both actions may be beneficial, but if the lavement be used in quantity, it will wash away the discharge, and there will be no need of the action of the Condyl's fluid.

## CHAPTER IV.

## UTERINE LEUCORRHŒA.

WE now approach the very pith and marrow of our subject ; up to the present all our considerations have had to do with morbid conditions of the appendages and approaches to the great central organisms of the female life—with the breaches in the outworks of the defence ; we have now to deal with the very citadel itself.

“Propter uterum, mulier est,” says Van Helmont. “The womb makes the woman,” as it has been paraphrased ; and perhaps if we include in the term womb, its appendages the ovaries, we may agree that upon these organs and their functions, when duly performed, do in reality depend the main distinction and most marked differences between the sexes. This must be so, inasmuch as the highest and crowning function of perfect womanhood, the bringing forth of children, is impossible without these organs ; yet there are cases recorded in which the external signs of womanhood have seemed complete, as to physical changes, and yet no menstruation has taken place, and the woman has had no ovaries (Dr. J. Braxton Hicks’ Croonian Lectures on the differences between the sexes in regard to the aspect and treatment of disease, 1877). In fact, it must be allowed that the distinction of sex in the matter of manner, of habit of mind, and of the character of illnesses from which they suffer, may be traced from very earliest infancy ; and although doubtless these differences are accentuated, and become more developed, in a manner almost sudden, in the young girl at the period of puberty, yet they are but the climax and end of a long series of divergences commencing before birth, and probably dating even from the very moment of conception. It does not come within the scope or intention of our treatise, to enter into a consideration of the physiology of menstruation, or of pregnancy, nor their pathological alterations ; such a task would extend quite beyond the limits which we have placed upon ourselves ; but for the proper elucidation of the subject, and the intelligent comprehension of the remarks which are to follow, it will be necessary to give a very brief and succinct account



of these processes, so far at least as they affect the internal cavity of the uterus and its lining membrane.

The uterus, or womb is, when not pregnant, a small pear-shaped body, weighing about 2 ounces, and measuring in length  $2\frac{5}{8}$  inches, and breadth at the broadest part—the fundus or dome—about  $1\frac{1}{2}$  inches. It hangs suspended in the centre of the pelvis, with its axis generally corresponding with that of the inlet, but liable to constant alteration, with the changing conditions as to fulness of the surrounding viscera, especially the bladder and rectum. Its lower and smaller point is inserted, as before stated, into the anterior wall of the vagina, its axis forming with the axis of that passage an obtuse angle, and its cavity communicates with that of the vagina by a narrow fissure, having in the woman who has never borne children, a crescentic form, with the concavity downwards, somewhat like the mouth of the tench, and hence called “*os tinæ*.” After she has borne children, the opening loses its crescentic form, the extremities lose their droop, and it becomes more nearly horizontal; while during pregnancy its changes are very marked and characteristic, and form, according to Dr. Whitehead, one of the most reliable tests of pregnancy in the earlier period, before the stethoscope reveals the beating of the fœtal heart. This opening leads by a channel, which widens from the orifice to a diameter of about one inch, and then again contracts to a still narrower constriction, the *os internum*, from which it again widens into a triangular cavity, measuring in the unimpregnated state about  $1\frac{1}{2}$  inches across the widest part. At this part (the fundus uteri)—the base of the triangle—enter, one at each angle, the Fallopian tubes; their lining membrane, continuous with that of the uterus, is covered with ciliated epithelium, the ciliæ of which vibrate towards the uterus; the outer extremities of these tubes terminate in a free opening, trumpet-shaped and fimbriated, so as to grasp the ovaries, to which one of the fimbriæ is attached; the outer surface is covered with peritoneum, into the cavity of which the tube opens. The ovary we need not here describe, as it is outside the scheme of our study, except to say that during menstruation these organs become turgid and increased in size, and being grasped by the fimbriated extremity of the Fallopian tubes, at the period when the ovule is mature and ready to be discharged, they have fulfilled their office, and the further development or otherwise of that organism depends on other functions.

To return to the lining membrane of the uterus, it will be seen from the description of the form of the uterine cavity as given above, that in the unimpregnated condition, it may be considered as being divided into two by the os internum ; indeed this was pointed out by Dr. J. H. Bennett in his work on "Inflammation of the Uterus." The uterus was described by several ancient writers (see Theophilus' Commentaries on Hippocrates' Aphorisms) as consisting of two cavities separated by a membrane, but it is the fact, that in the virgin uterus, the os internum so closely constricts the cavity of the cervix, that it does practically divide the interior of the organ into two cavities, but after the woman has borne children this closeness of apposition is less apparent. Of these two cavities, the lower, called that of the cervix, or neck, resembles a slightly flattened tube, somewhat dilated at its lower third, and afterwards becoming constricted gradually until it terminates at the os internum in the cavity of the body of the uterus.

The mucous membrane lining the cavity of the body of the uterus is thin, smooth, soft, and of a reddish white colour, studded with the orifices of simple tubular glands, which undergo considerable development after impregnation.

That of the cavity of the cervix is marked by two longitudinal ridges, or columns, one in the anterior, and one in the posterior wall, from both of which run smaller ridges or rugæ obliquely upwards, forming an appearance called the "*arbor vitæ uterinus*," which end in other but less distinct lines on the sides. Between these folds are found very numerous glands, which secrete a tenacious mucus, and the folds are covered with cylindrical and ciliated epithelium, and studded with villi. The secretion of these glands is normally alkaline in its reaction, while that of the vagina, as we have seen before, is acid.

When, at the age of fourteen or fifteen, certain changes appear in the physical and mental attributes of a female child, which become more and more marked, until as a climax to an activity of development—a consequence and a characteristic of increased vascular supply and nervous excitement—there occurs a discharge of blood, normally from the uterus by way of the vagina, but occasionally from the nose or other organs: we recognise a condition of capability of procreation, and say she has arrived at puberty. From this time we

expect, and if the young woman, as she now is, continues in health, we see a recurrence of this phenomenon every four weeks or thereabouts, unless and until stopped by the occurrence of pregnancy, or the climacteric change. Whence comes the blood? It is generally agreed, that at such times the ovaries, the Fallopian tubes, and the uterus, are all congested and full of blood, and that the mucous membrane, lining the cavity of the body of the uterus as low as the os internum, becomes disintegrated and removed;—according to Dr. J. Williams (*Obstetrical Journal*, 1875) by a species of fatty degeneration—and that contraction of the muscular fibres of the uterus drives an increased quantity of blood into it, under which, in its weakened condition, it gives way and allows the blood to escape; while active proliferation of cells takes place on the muscular surfaces, and in a few days the cavity of the body of the uterus is once more covered with a new mucous lining. About ten days after the cessation of the discharge, according to this writer, a distinction is established between the new mucous membrane and the uterine wall, beginning first at the os internum, and spreading towards the fundus, reaching which part the process recommences, unless impregnation takes place. In short, he states that it is neither a congestion, nor a species of erection, but a molecular disintegration of the mucous membrane of the body of the uterus, followed by hæmorrhage. Whether we accept these views, or the earlier ones of Kölliker, that it is a capillary congestion, or of Pouchet or Tyler Smith, that it is an exfoliation of the mucous membrane; we must, at least, agree that the phenomenon shows that there is a clear functional distinction between the mucous membrane of the body and fundus of the uterus, and that of the cervix, external to the os internum—a distinction which we shall soon see to be one of very great importance in relation to our special subject. The cause of the change is supposed to be the maturation of a Graafian follicle in the ovary, with its enclosed ovule, which, being discharged, is conveyed along the Fallopian tube to the uterus, the menstrual discharge being, according to Coste, coincident with the maturation of the follicle, not with the discharge of the ovule, which may not take place until later. We have not space, nor is it desirable upon other grounds, to go into the subject of impregnation, or the changes which ensue in the ovule therefrom; it is sufficient to take up the history when the impregnated ovule reaches the uterus. The



mucous membrane of the cavity of the body of the uterus has already become thick and vascular, and of a velvety appearance, and has received the name of decidua vera, from being cast off during parturition. This condition extends from the fundus to the os internum, the cavity of the cervix beyond becoming blocked by a thick, viscid secretion, from the abundant glands of this part; the ovum making its entrance from the Fallopian tubes into the cavity of the uterus, lodging in some of the folds of the thickened and hypertrophied lining membrane, becomes fixed and covered in by an extension and growth therefrom, which is called the decidua reflexa. These two layers coalesce afterwards (between the third and fourth month of pregnancy), and towards the end of gestation, the combined membrane becomes gradually detached from the uterine walls by a process of fatty degeneration, so that we see the functional distinction which we noticed in menstruation is also evident in pregnancy, and this being recognised will save us from the necessity of going further in the way of description of the complex and wonderful changes which are the result of that state.

#### CERVICAL LEUCORRHOEA.

A leucorrhœal discharge from the mucous membrane of the cervix uteri, below the os internum, presents many of the characteristics of the normal secretion of that part. It is a clear, transparent, jelly-like viscid secretion, resembling uncoagulated albumen, as seen in the white of uncooked eggs. It is very tenacious, and when in situ has an alkaline reaction, but this may become modified during its passage through the vagina by admixture with the acid secretion of that cavity. Sometimes, also, the admixture of pus cells from ulceration or abrasion of the cervix, or from other causes, will, in varying degree, alter its characteristic appearance. Apart from these, it is found, under the microscope, to consist of a gelatinous base, containing large quantities of epithelium, mostly of the columnar variety, and often arranged in rows and files. These are derived mostly from the ordinary cells of the mucous membrane of the part, but have during the process of disintegration become deprived of their ciliæ. There are also small round cells from the interior of the glands and their ducts, with which the part is so thickly studded, and which contain granular and fatty matters, from the breaking down and destruction of many of the cells.



When the breaking down and dissolution of cell elements has proceeded to a certain extent, the discharge loses its transparency and becomes turbid, then opaque, and finally yellowish or greenish, and is found to contain an abundance of pus cells; and such remains of the epithelial cells as are still found are oval and rounded in shape, and the amount of granular matter is increased. Where there is abrasion of the cervical surface, there may be an admixture of blood corpuscles, and the discharge may even assume a pinkish or dark discolouration.

This form of discharge is by far the most common of those by which women are affected, excepting, of course, those which are from a specific contagion; which are largely confined to special classes of women, and are but occasionally found in ordinary family practice.

The position of the part is such as to explain, without difficulty, the peculiar liability of the cervix to affections of this nature, being liable to be affected by the spread of vaginal inflammations, by contiguity, and of those of the body of the uterus, from the washing of the morbid discharges through its cavity. Then it is liable to injury during congress and also during parturition,—nay, even without these active causes, it may sustain a passive injury, whenever there is displacement or undue mobility, from mere friction against the posterior wall of the vagina. It is to Dr. J. H. Bennett that the credit is due of having first, in the year 1845, “brought forward facts new to the profession respecting the frequent extension of inflammation of the neck of the uterus during pregnancy, as a cause of hæmorrhage and abortion.” It is much more common in the married than in the virgin, in the woman who has borne children than in those who have had none.

It is then with this most common affliction we have now to deal,—a chronic cervical endo-metritis, affecting the mucous lining of the canal of the cervix uteri, from the os internum downwards and outwards, through the external os, and over the vaginal surfaces, until it meets the vaginal mucous membrane. The glandulæ Nabothi are especially involved in the morbid action, being in the earlier stage almost alone affected, and even later being visibly inflamed, and their mouths prominent, on inspection with a microscope, at necroscopies. As before stated, the persistence of the process of inflammatory denudation of the epithelial coverings leads to abrasions, and even to true ulceration. If, however, the destruction does not invade the villi themselves, as is generally the case, they undergo a

species of hypertrophic development, and project from the surface, giving a granular appearance, and hence it has been termed granular ulceration. The granulations, or papillæ, each contain a capillary loop, which being unprotected frequently bleeds, and sometimes these vessels assume a varicose condition, from which it has received the title of bleeding or varicose ulcer; but in all these states the condition is essentially the same. Again, in some cases, the surface of the ulcer becomes covered with a false membrane, and is then called "diphtheritic;" when examined through the speculum, it is seen as an intensely red, granular, bleeding surface, often raised above the level of the surrounding membrane, covered with a mass of adhesive pus, which requires removal before it can be properly seen. To the finger it is easily perceptible as a velvety granular surface, distinct from the firm smoothness of the rest of the os, but it may extend into the canal. In some cases, it is the muciparous glands which, becoming inflamed, are filled with retained secretion, thick and tenacious, like honey; becoming over distended, at length they burst and ulcerate, exposing the papillæ which they contain, and which, becoming hypertrophied, have the appearance of red elevated tubercles. This form of ulceration is called follicular; the various appearances which it assumes, in its different stages, have led to the application of the names of acne, herpes, or aphthæ of the uterus. Eversion of the os, so as to expose the mucous lining of its cavity, is also a consequence of this condition, and requires surgical interference; but our space will not permit a further digression on this part of the subject [which is really beyond the boundaries of our treatise] than, that in any such operative measures, care must be taken not, by too free excision, to run the risk of cicatricial contraction of the os, or cervical channel, which may entail many inconveniences and much disappointment. But it is not every case which proceeds to the extent of ulceration, and in those that do so proceed, the ulcerative stage is an advance from the state of chronic catarrhal inflammation of the mucous lining of the cervix. But although in its origin it may be thus simple—a mere catarrhal affection of the muciparous glands—yet it cannot continue long without affecting *firstly*, the structure of the mucous membrane itself; and *secondly*, the parenchyma, which becomes swollen and indurated. Much unnecessary complication has been thrown around this subject, by separating

and describing, as distinct diseases, conditions which are really but stages or modifications of one common affection. In this manner it has been that the disease we are now considering has been divided into two, according to the extent to which the parenchymatous structure of the cervix itself has become involved. Thus it is to be noted that in young unmarried women, or those who have borne no children, the case is generally confined to a catarrhal affection of the mucous membrane and its glands, with little or no affection of the parenchyma; but on the other hand, in the case of those who have borne children, the os uteri and the uterine structures in its vicinity are liable to be much bruised and injured during parturition, and its epithelium damaged or removed, and not unfrequently even laceration of the structures is the result. These injuries once inflicted, many causes may combine to prevent their normal repair—the laceration may be too deep, or a condition of sub-involution may exist (causing a congested state of the uterine tissues), or there may be displacements of the uterus, too early rising after child-birth, or the presence of putrescent or irritating discharges. But it must be borne in mind, that the mucous lining of the uterine cavity differs from most other mucous membranes, in not being separated from the organic structure of that organ by a layer of loose areolar tissue; so that a catarrhal inflammation cannot long exist without affecting the structure immediately beneath it. We may have a catarrh, affecting the mucous membrane of the nose, of the air passages, or of the intestines, without any great danger of the muscular structures beneath becoming implicated, but it is not so in the case of the uterus. There the mucous membrane itself is dense and close in structure, is intimately connected with the subjacent muscular structure, and is pierced by numerous glands, whose extremities extend into the tissue; and indeed it has been contended by Dr. J. Williams, that a portion of the muscular wall really corresponds in development to the deeper layer of the mucous membrane; at least the connection is so close as to amply explain the fact, that catarrhal inflammation of the mucous surface of that organ generally involves some extent of the parenchyma; and in cases such as those to which we are now alluding, these injuries bring on in their train, induration, thickening, and hyperplasia of the muscular structure of the cervix. The causes of catarrhal inflammation of the canal of the cervix uteri, are similar



to those which cause a like condition in other mucous membranes—exposure to cold or damp, especially during the menstrual crisis ; the extension of inflammation by contiguity, from the body of the uterus in the one direction, from the vagina in the other, be the same specific or simple in its nature ; constriction of the canal, causing retention of clots of menstrual blood, or the existence of polypi in the canal. To these may be added an especial predisposition, from the gouty, strumous, or rheumatic diathesis, and as producing more particularly the more extensive form of cervical endo-metritis, when the whole thickness of the uterine neck is involved, and becomes enlarged, hardened, and frequently the seat of one or other forms of ulceration—injuries from parturition, or abortion—fissures or slits, in the lower part of the canal, upon the lips of the os ; displacement of the uterus, so that in walking or sitting the os is forced against some part of the vaginal wall ; the use of pessaries, or too frequent sexual indulgence, and many minor causes which will or may produce injury or irritation of the os or cervix. The symptoms of this condition are not, in the early stages, such as to cause the patient much anxiety ; a leucorrhœa, perhaps, has existed for some time, but in no such amount as to attract the attention ; and in many cases its existence will be denied, although upon examination its presence will be abundantly manifest. Perhaps the first thing to cause complaint will be a sense of weight and fulness in the loins, followed by pains, and a dragging weight in the pelvis, which is increased by any excitement. The leucorrhœal discharge, as it issues from the external organs, resembles boiled starch ; if it has continued for any length of time, it will probably have caused some irritation of the vulvæ ; on examination with the speculum, the os will be found somewhat enlarged, and its lips puffy ; if the finger is placed behind it, so as to press upon and raise the cervix, pain will be felt, but pain is not a marked characteristic of uterine disease ; its derangements are expressed through the sympathetic system by reflex symptoms, and affections of distant parts, rather than of the affected organ itself. The os will be seen to be blocked with a viscid, glairy, tenacious mucus, which will often depend from it in a string ; even when touched with the probe covered with cotton wool, it will often resist the traction, and require some amount of force or management to withdraw it. Before the removal of this mucus, the os may be seen to be red and puffy, or it may be

found covered with pus, on the removal of which, a red granular raised patch may be seen—the so called granular ulcer already described. This is not really an ulcer, since it consists, not of destruction of the proper tissues of the mucous membrane, but of a hypertrophic condition of its villi, the lesion being merely an epithelial abrasion.

If, however, this condition is not present, the physician must then proceed to explore the uterine cavity. The uterine sound having been bent to a suitable curve, must be passed gently up the os internum, and if it meets with no resistance, as far up as the fundus, which should be gently struck once or twice, and also on the sides of the uterus. If, now, this is followed by a dull pain “like a tooth-ache,” and the sound on removal is followed by a flow of blood or mucus, we may conclude that we have to do with a corporeal endo-metritis; but, if on the contrary, there is no pain, and the removal of the sound is not followed by blood or mucus, then we may be sure that the affection is confined to the cervix alone.

Usually, before this condition of matters has existed for any length of time, we shall have some menstrual irregularity, or the discharge will be too profuse, or it may be too scanty and there may be pain, though this is not frequent in simple cervical inflammation. The patient will, before any very long time, begin to show constitutional derangements; she will become nervous and irritable, gloomy, and low spirited. Her appetite will fail; she will lose flesh, and become pale, and exhibit some of those protean symptoms which characterise the condition we call hysteria.

But graver symptoms than these may supervene from extension of the inflammatory action to other parts; cystitis, from extension to the bladder, or the body of the uterus itself may become involved, and a general metritis result. Vomiting, excessive and exhausting, hæmorrhage and abortion, are the frequent results of this condition in the pregnant uterus.

For a long time, diseases of the uterine structures were looked upon as requiring only constitutional and general treatment, and, in fact, the use of the speculum and the local application of remedies were regarded as proceedings, if not improper, at least unnecessary, and as having an aspect of charlatantry.

It is very largely to Dr. J. H. Bennett, and his successors—of



these not the least famous is Dr. James Whitehead, late of this city—that we owe the advances in knowledge and in methods of treatment, which have rescued so many women from a painful and wretched existence to become once again happy wives and mothers, to take again their places in the household and in society. Constitutional treatment still maintains a large and necessary place in the treatment of uterine diseases, for that organ is so intimately connected, by the sympathetic system of nerves, with all the other organs, that any disturbance of its normal functions makes itself felt by speedy reaction upon other, and it may be distant, organs. Sickness, vomiting, spasms, irregular action of the heart, modifications of the rate and regularity of the respiration, headache, &c., are but a few of the modes in which this organ manifests its disturbance, and to trace these to their origin, and to treat them, constitutes a considerable portion of the physician's duty.

A nutritious but not too rich diet (a rigid carrying out, of the rules of personal hygiene), abundance of fresh air, and such exercise as can be obtained conveniently, and without detriment to the necessary quiescence of the inflamed parts, are essential requisites; cold or tepid baths for the surface of the body, followed by gentle friction of the surface with hot rough towels, flannel next to the skin (when it can be borne) and worn by relays, both night and day, care being taken to place the garments removed from the body before the fire, to dry and air, and to have them warm when needed again.

To remove all causes of irritation of mind, worry, anxiety, or depression of spirits; and the administration of tonics (especially the ferruginous tonics) in combination with strychnia or nux-vomica; quinine, and sometimes arsenic, are of value, but in some cases the liq. cinchona, or the tincture will be found to suit better. The bromides of potassium or ammonium are generally useful, to soothe the mental irritability, and the use of saline laxatives, or the pil. aloes cum myrrha, if, as is often the case, there is a tendency to constipation. If the patient is suckling, the child should be weaned, unless it is under three months old, which will seldom be the case; but it may be necessary even earlier than this if the case is severe. This is a matter which must be largely left to the discretion of the practitioner, to deal with according to the dictation of his own observations and general experience. The mineral acids in combination with the vegetable

bitters are exceedingly useful in the dyspepsia which is the almost constant accompaniment of this condition. The mineral waters of Kissingen or Carlsbad, the Pullna water, and several other of the laxative natural waters so largely supplied to this country, may be used with advantage. The local tenderness, pain, heat, and swelling, may be speedily relieved by the abstraction of a small quantity of blood from the inflamed cervix; this is best done by scarification or puncture of the inflamed os through the speculum, a mode of relief to be preferred to the application of leeches for several reasons; sponges or plugs of lint, dipped in warm water, should be applied to the puncture or scarification until a sufficient quantity of blood has escaped. Laving the os and cervix with a stream of hot water, through a Higginson's syringe, is also a very effectual mode of relief when it is turgid and swollen, and it may be combined with scarification as an efficient aid. The application of a thick pledget of lint, soaked in glycerine, and applied to the os, and left in all night, will induce a copious watery discharge, and gives great relief—a string should be attached to facilitate its removal.

It is of the first importance for the local treatment of this affection, that the thick tenacious viscid plug of mucus, that fills the cervical canal, should be thoroughly removed before we attempt to apply any local, alterative, or stimulant application. The neglect of this precaution will render futile the most well adapted means of treatment, and lead to delay, disappointment, and much trouble. For this purpose, should the probe (covered with cotton wool) prove insufficient, and the use of a stream of warm, or even hot water through a Higginson's syringe ineffective, it will be well to employ a small syringe with a long nozzle, four or five inches in length, which may be passed up the canal of the cervix, as far as the os internum, and so wash out the channel from above downwards, and the stream of water, or other fluid employed, be brought to bear directly upon the part to be cleansed. It is also a good precaution, whenever there is any difficulty, or doubt as to the effectual removal of the mucus from the cavity to enlarge the os and cavity of the cervix, by means of tents of sponge or sea-tangle, so as to permit the free exploration of the internal cervical surface. That surface being thus exposed, is ready for the application of certain substances which have been found to exercise an alterative effect upon the nutrition and function of the mucous

membranes in other situations, and some are specially suited to this particular situation. These substances comprise nitric acid, nitrate of silver, iodine, carbolic acid, chromic acid, sulphate of copper, perchloride and persulphate of iron, tannin, acetate of lead, sulphate of zinc, borax, &c., &c. The choice of the particular agent to be applied is in great measure a matter for the judgment of the practitioner, bearing in mind that, unless for the destruction of morbid growths, the application of a strong caustic is unadvisable, from the liability to cause loss of structure, followed by cicatricial contraction of the os or channel of the cervix. Chromic acid was introduced into practice for this purpose by Dr. Marion Sims, of New York, and in the more generally useful carbolic acid we have an agent of great value, first brought into use for this and other uterine purposes by Dr. Lloyd Roberts, of this city. The object of the application of these remedies, it must be borne in mind, is not to destroy structure, but to produce an alterative effect, if possible, without leaving any cicatricial tissue; but when there is erosion, and the granular condition we have previously described, one of the stronger applications is advisable. The nitric acid, the acid nitrate of mercury, or as Dr. J. H. Bennett himself most strongly advises, the solid nitrate of silver, rubbed into the granular surface until it forms "a kind of blood and caustic magma over the surface." "Two or three applications of this kind, at five days' interval, generally clean the granulating surface, destroying the fungoid granulations and leaving a clean ulceration; and then we can use the nitric acid or the acid nitrate of mercury, after several days' interval. The use of nitrate of silver is always followed by free bleeding for several days, which I meet by strong alum or zinc injections; that of the acids never occasions bleeding, but is generally followed by a serous discharge." (Dr. J. H. Bennett "On Hæmorrhage and Excessive Sickness during Pregnancy; and on Abortion with Inflammation of the Uterus and of its Cervix."—*British Medical Journal*, July 9, 1881.) But perhaps the most generally useful of these substances is the strong carbolic acid, and it is no small advantage, that its application seems to have a soothing, or anæsthetic effect upon the tissues, and that it does not produce cicatricial contraction. A combination of carbolic acid and iodine, known under the name of "iodized phenol," is also a good application, and we must not omit the favourite American applica-



tion, chromic acid.\* When we have only to deal with catarrhal inflammation of the mucous surface of the cervix, without erosions or ulcerations, milder measures will probably suffice; a solution of nitrate of silver, 30 to 60 grains to the ounce, according to circumstances, or a solution of tannin in collodion, called styptic-colloid, may be used, or the solid nitrate of silver may be lightly and rapidly passed over the surface of the inflamed membrane. The tincture of iodine is also a good alterative stimulant. When the growth of villi upon the granular surface is very excessive, forming what is called by Kennedy "cock's comb" granulations, it is well to snip off the growths as close as possible with a long-handled pair of scissors, or remove them by scraping, before applying the nitrate of silver or other caustics. It is sometimes advisable to leave a strip of cotton wool, dipped in one of the milder applications, in contact with the cervical mucous membrane for some time, but for this purpose, small bougies, or crayons of tannin with glycerine, or of gelatine one part to two parts of glycerine, to form a base to which the astringent may be added, are useful. The drugs most useful for these purposes are acetate of lead, sulphate of iron or copper, zinc or alum, iodide of potassium, or iodine. Another form for uterine suppositories is recommended by Dr. Tilt, and consists of one part of paraffin to four of vaseline; or simple strips of sponge may be cut to a proper shape, and saturated with a solution of the agent desired to be employed, and dried, then soaked in mucilage of acacia and allowed to dry.

Of vaginal injections to be used by the patient herself, the most useful are *borax*—which most deservedly holds the first place—tannin, or astringent decoctions, as oak bark, &c.; acetate of lead, or the liq. plumbi. diac. of the Pharmacopæia, diluted, &c., &c.

Glycerine is best used in the form of tampon, which when left in contact with the inflamed and congested cervix, produces "an abundant watery discharge which saturates the linen of the patient; great relief is thus given, and there is hardly any form of congestive uterine disease which is not benefited by this treatment, which any lady can apply to herself." (Playfair, W.S. "Quain's Dictionary of Medicine.") When

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\* It should be scarcely necessary to warn the reader, that whenever the stronger caustics are used, care must be taken to guard the vagina and other parts from their action, and the excess immediately washed away with plentiful streams of water, in which salt, carbonate of soda, or other alkali or decomposing agent, as may be most suitable, should be dissolved.

the inflammatory action has extended to the deeper structures of the uterus, absorbent applications and medicines are required; iodine and the iodides, mercurial preparations; the application of the actual cautery, or potassa fusa, or chloride of zinc, to the outer part of the cervix may be advisable. If the cervix is lengthened, amputation may be necessary. The introduction of tents, increasing in size gradually, at intervals of a few days, will often produce a copious discharge of watery fluid, and soften the hardened tissues in a very marked manner. When the patient is a virgin, it will of course be unadvisable to use the speculum until all other methods have been tried, but if we have unavailingly applied such means of treatment as are compatible with the preservation of the hymenal membrane, we must not hesitate, in the higher interests of the patient's health and life-long comfort, to sacrifice all lesser considerations, in order to arrive at the root and seat of the disease. And in the case of married women it is of the greatest consequence, that at any rate during the period of active treatment, the husband should forego all marital rights, and the patient should sleep apart; a separate room, and if possible, an attendant should sleep with the patient, that there may be rest, not only from overt action, but also from mental and hidden excitement.

The prognosis is favourable, if the disease has not deeply affected the parenchyma, and if the case falls into hands capable of recognising its nature and applying the proper treatment; but we cannot be too cautious in placing a limit to its duration. Even the mildest cases, will require from four to six months of regular treatment before they can be pronounced cured, and if the parenchyma of the organ is indurated or hypertrophied, the period must be greatly lengthened. The disease is not a fixed and determined course of morbid action, ending in crisis or resolution; its duration is entirely dependent upon external circumstances. The slighter forms undoubtedly may recover without active treatment; a change in the general condition of the system, as from pregnancy and childbirth; an entire alteration of the habits of life; a long sea-voyage, with change of air and scene, of interest and occupation, may and will, in many cases, affect a cure. But unless some great alterative action of this, or some similar kind, effects a revolution in the constitutional habits, the disease will pass farther and deeper into the true uterine tissues, producing hypertrophy, hyperplasia, flexions or displacements, and a long list of evils.



In the Text-Books on Diseases of Women, this affection, when it affects the deeper structure of the uterus, is treated as a separate and distinct disease ; but it cannot be too clearly understood that it is, in reality, but an extension to the deeper structures, of the affection of which we have just treated ; and to describe it and its treatment as a separate and distinct entity is but an useless refinement and sub-division, and serves no good purpose, but rather tends to render more complex a subject already sufficiently difficult and involved.

## CHAPTER V.

### CORPOREAL LEUCORRHŒA.

WHEN the leucorrhœal discharge comes from the body of the uterus, it is generally distinguishable from the tenacious, viscid, transparent, glutinous secretion of the Nabothian glands of the cervix, by being thinner, more fluid, generally curdled or flocculent, and frequently coloured with blood ; so frequently, indeed, that Dr. J. H. Bennett states, that a rusty-coloured leucorrhœa is as characteristic of internal metritis as is a rusty sputum of pneumonia. But although microscopic examination of this kind of discharge almost always reveals the presence of blood corpuscles, they are sometimes too scanty in number to cause a characteristic colouring. In these cases, the leucorrhœa is found to be yellowish, or if the case has been of long duration, probably purulent. It is a very frequent occurrence for this form of discharge to appear during pregnancy ; and it is usually purulent, and frequently accompanied by hæmorrhage, and often followed by abortion ; or if the child be carried to the full period, the labour is followed by alarming, and not unfrequently fatal, *post-partum* hæmorrhage. The pregnant condition, when there is an inflammatory affection of the body of the uterus, is also abnormally troubled in other ways ; intractable sickness, reducing the patient to the lowest ebb, is a very frequent symptom of this disease, so frequent as to call, in Dr. Bennett's opinion, for a careful uterine examination, whenever it is found to resist the ordinary modes of treatment. Whenever,

also, there is a leucorrhœa more or less tinged with blood, persisting for a fortnight, or thereabouts, after a menstrual period, we may be pretty sure that it arises from a corporeal endo-metritis. In these cases it is to be borne in mind, that the connection between the lining membrane and the muscular structure of the uterus is so intimate, that the former cannot be long or severely affected without in some degree implicating the latter ; and that parenchymatous metritis is so exceedingly rare as a primary disease, that, in its acute form, its very existence has been, at least inferentially, denied by some most experienced authorities.

The septic forms of general metritis, such as form the commencement of puerperal fever, now gènerally termed *metria*, or result not unfrequently from the access of air to long-retained menstrual accumulations, do not properly come within the scope of our subject. They are too important, and form too complicated and far-reaching a study, to be hastily, or slightly treated ; and I have decided, therefore, to omit these considerations altogether in the present work. We shall confine ourselves in this portion, as we have done with the cervical leucorrhœa, to considering the symptoms as due to an inflammatory affection—which may be either acute or chronic in its character—of the lining membrane of the uterine cavity, above the line of the os internum, and which will, if long continued, of necessity involve the parenchyma of the organ in its processes and their results.

Next to the septic causes of uterine inflammation in danger and intensity, will come those where some injury to the organ has been the exciting cause, and in some of these, there is also combined the results of more or less septic absorption ; and next again, the specific causes, extending by contiguity from the vagina.

As a contrast to these active and rapid forms of the inflammatory process, may be taken the cases where the hyperæmic tendency gives rise to a kind of shedding of the epithelial layers of the mucous lining, and eventually, to a proliferation of the deeper structures, forming granular or villous elevations, the so-called “fungoid endo-metritis.” This is a frequent condition during pregnancy, and a cause of many of those severe floodings which are apt to recur in that state. The diseased structure partakes in the hyperæmia and rapid development of the rest of the uterine tissues, and, in the words of Dr. Bennett (*loc. cit.*) “a mere excoriation at the time of conception, soon

assumes, as pregnancy advances, a fungoid bleeding character. As the cervix and uterus enlarge, the granulations of the ulcerated surface become larger, more vascular, and assume by the third or fourth month quite the fungoid character, bleeding at the slightest touch."

It must be borne in mind, that the acute and specific forms of the affection are very apt to proceed to the chronic and parenchymatous condition; and in no case is this more marked, than in the gonorrhœal variety, and indeed so frequently is this the case, that a great American authority has given it as his opinion, that this particular virus persists throughout life. Syphilis also, acting through the ovum, or on the system of the woman herself, plays a by no means inconsiderable part in these conditions. The greater comparative frequency with which this affection involves the parenchymatous structure of the uterus, is easily understood, when we remember the looser, and more vascular condition, of that organ after child-birth, and the frequency with which some degree of sub-involution persists; and in this loose heavy condition its walls become soft, and lose their power of supporting the swollen fundus, which, full of blood, and spongy in structure, over-weighs the weak and slender neck, and produces flexions or displacements, the source of endless trouble to both patient and adviser.

But the consideration of these conditions of alteration of position would form a subject for a treatise of themselves, and can only be briefly mentioned here. They are, however, another example of the interdependence of the various parts of the generative apparatus; another caution against the neglect, which too often leaves the early and manageable stage of these diseases unnoticed, or untreated, until other more alarming symptoms call urgently for relief, when the physician too often finds changes of structure already effected, and parts involved which might have been safe from attack, had the case been brought under skilled observation at an earlier period.

The enlargement is not solely due to mere congestion and fulness of the vessels—this is a frequent concomitant, and often a starting point of the condition; but the hyperæmia brings in its train serous infiltration, and later an actual hyperplasia, so that the uterine walls become thicker, and the cervix longer, especially the vaginal portion, for by this time it is most probable that the cervix has itself become involved, and we have a general metritis. But not only is the condition of subinvolution, and passive congestion, a starting point of

metritis, and of flexions and displacements of the uterus, but these conditions re-act so constantly upon each other, that we not unfrequently find the flexion or displacement the cause of the congestion and succeeding inflammation. The abnormal curvature of the organ leads to the retention of its normal secretions, to obstruction to the return of the blood from its vessels, and the result is hyperæmia, congestion, inflammation of the structure and lining, hyperplasia, and the long train of ills which we are now considering. The causes which we mentioned as producing the cervical endometritis, have also the power of producing this form; the various faulty diatheses—strumous, gouty, or rheumatic; debility, mental depression, suppressed or defective menstruation; catarrh, particularly during the menstrual nixus; tumours in the walls or cavities of the uterus; wounds and injuries, either mechanical or chemical; excessive marital indulgence, especially during pregnancy, or in a woman who has displaced the uterus by habitual tight lacing, or reduced her strength by luxurious indolence; the condition of the blood in various exanthematous diseases, variola, scarlet fever, or measles; and, lastly, it is by no means an uncommon accompaniment of phthisis.

From what has already been said, it will be seen that the symptomatology of this affection is somewhat vague, and with difficulty to be distinguished from that of inflammation of the cervical cavity and structure. The leucorrhœa we have already described frequently causes considerable irritation of the vulvæ, and in women who have passed the climacteric it assumes a watery, or thin purulent character, and is often accompanied by most persistent and harassing pruritus vulvæ; in these cases we should always examine the condition of the urine, which frequently will be found saccharine. The menstrual derangement may be either, as is perhaps most frequently the case, too abundant; or it may be too scanty, a condition which generally marks an advanced stage of the disease, and the implication of the whole uterine structure.

The exfoliation of the lining membrane of the uterine cavity, and its discharge with the menstrual flow, in shreds and casts of the utricular follicles, forming what is known as membranous dysmenorrhœa, is, according to Klob and other authorities, a characteristic symptom of inflammation of the uterine cavity; when it occurs, it is accompanied



by a considerable amount of pain ; but others deny its inflammatory origin, and look upon it as an excessive growth, and too great development of the fibrous structure of the decidua. At any rate, it is the accompaniment, and probably the result, of a hyperæmic condition of the uterine lining.

Pain in the back and loins, in the hypogastric region and the groin, and often a burning pain over the pubes, are symptomatic of corporeal endo-metritis. When the affection has involved the parenchyma, we have in addition dull, heavy, dragging pain in the pelvis, considerable pain before and during menstruation, pain in the breasts, also at the same periods ; pain on defæcation, tenesmus and often piles, and feeling of weight and pressure in the rectum. There is great nervous disturbance, neuralgia, headache, hysteria, melancholy and depression, tympanites, constipation ; nausea and vomiting are often present and troublesome, especially when the uterine structures are deeply involved. The areola around the nipple is darkened, and there is pain on pressure, and tenesmus of the bladder. It may be well here to contrast in tabular form the chief distinctions of the inflammatory affections of the two cavities, into which we have, following Dr. J. H. Bennett, divided the uterine cavity, viz., "the cervical portion" and "the corporeal portion," the dividing line being drawn at the os internum :—

CERVICAL METRITIS AND ENDO-METRITIS.	CORPOREAL METRITIS AND ENDO-METRITIS.
Leucorrhœa, glairy, often transparent, but comparatively rarely streaked with blood.	Leucorrhœa, glairy, purulent and often bloody.
No tympanites.	Tympanites marked.
No tenesmus.	Tenesmus, often of rectum, bladder, or uterus, or all three.
Seldom vomiting or nausea.	Vomiting and nausea frequent and persistent.
Little or no dysmenorrhœa.	Dysmenorrhœa marked.
Nervous derangement comparatively slight.	Severe nervous disturbance.
Neither sleeplessness nor despondency marked.	Sleeplessness and melancholy.
Breasts not painful.	Breasts painful before and during menstruation.
Areola not darkened.	Areola darkened.
Cavity of uterus not enlarged.	Cavity often enlarged.



To these may be added the fact that the uterine probe, used as directed in the last chapter, causes pain, and is followed by blood in corporeal inflammation, but not in the cervical, and that upon bimanual manipulation of the uterus, pain and heightened sensibility of the body of the organ is demonstrated in the former case, but not in the latter; patency of the internal os is also a corroborative symptom of no slight value. The prognosis, of course, varies with the duration and extent of the disease; when we have to do with a case of long standing, in which the parenchyma of the organ has become indurated and altered, and misplacement, or flexion of the uterus has taken place, the result will be doubtful, and the course of treatment will need to be long continued and carefully managed. But in the earlier stages they are generally amenable to judicious and skilful management, and we may with honesty hold out to our patient hope of recovery, and return to the duties and pleasures of her position.

When a leucorrhœa has existed for several years, it is exceedingly seldom that it can be remedied. In such a case, it is more probable that on examination, it will be found to be the outward sign of an internal inflammation, probably by that time occupying the whole cavity, and also involving the structure of the uterus in its entirety; but when it has only been recurrent and occasional it will in most cases be found to be of cervical origin, and catarrhal in nature.

A case of uncomplicated endo-metritis, whether cervical or corporeal, is much more likely to be cured than one in which the parenchyma is involved, and the latter form is more hopeful if there is but little hyperplastic increase of volume, and no displacement or flexion; *cæteris paribus*, in severe cases, those where the patient is apparently approaching the climacteric period are more hopeful than the contrary condition. But even in these latter cases we must not be too despondent in our prognosis, for when a cure cannot be effected, yet much relief may be given, and the field for treatment of malposition and deformities of the uterus is a large and fruitful one—too large, indeed, to occupy us here. But it must be strongly impressed upon the patient, in all these cases, that time is an important element in the case, and she who is continually changing her medical adviser—consulting first one and then another physician—will run a great risk of allowing the disease—perhaps, at the commencement, quite within the reach of proper treatment—to become, under the

irritation of various treatments, or from the loss of time, or want of perseverance, a deeply-seated and chronic ailment.

Among the results of that derangement of the nervous system, which ensue from protracted disease of an organ so intimately connected, by the sympathetic system of nerves, with other important organs, may be enumerated neuralgia, affecting various parts—dyspeptic symptoms, flatulence, vomiting or nausea, constipation, sometimes diarrhoea; pain on defæcation or in micturition, or both, pruritus, vaginismus, coccydynia, and pain in congress, often long and continued.

As the case continues, so do the nutritive and formative centres become more deeply involved, and we trace, as remote results of these uterine disturbances, cancer of the breast, and various chronic eruptions of the skin—eczema, herpes, acne, &c., and the hysterical neuroses, or even epilepsy, or melancholia. Sometimes the nervous derangements are evidenced by affections of the respiratory passages, asthma, or chronic bronchial affections, and they may become the exciting cause of phthisis. Sometimes we may even have the production of reflex paralysis, generally paraplegia. Falling off of the hair, and failure of sight, from a form of amaurosis, are also remote consequences of this disease. Sterility is, of course, a consequence of the more advanced condition, but it is undoubtedly the fact, that women will and do become pregnant while suffering from disease of the uterine cavity; a fact to which Dr. Bennett has frequently called the attention of the profession, and “that thence arise a whole train of erratic and morbid phenomena, modifying the whole course of pregnancy, of parturition, and of the subsequent puerperal state.”

The existence of uterine inflammation bears (as will be anticipated by any one who considers the nature of the process, and the condition which the disease produces in the uterine structure) a most important relation to the progress and completion of parturition, and the succeeding normal involution of the uterine walls. The accidents of parturition, rigidity of the os, hæmorrhage, laceration of the cervix, retained placenta, and *post partum* floodings, are frequent sequences of pregnancy in a diseased uterus, and Dr. Bennett believes that rigidity of the os and laceration of the cervix “is always to be thus explained,” and of the accidents of the puerperal state after labour, hæmorrhage, metritis, puerperal fever, plebitis, prolonged red, or purulent lochial discharge, or prolonged inability to stand or walk; “I

have"—says the same author—"been able to connect these pathological phenomena, in very many instances, with the previous existence of cervical or uterine inflammatory diseases."

The cases of so-called menstruation during pregnancy are almost always to be traced to an inflammatory condition of some part of the uterine (including, in that term, the cervical) cavity. For it is to be borne in mind, that the periodic tendency is discernible, even in normal pregnancy, during the earlier months; and the formation of moles from the death of the ovum, and abortion, are very usual consequences of the same condition.

Treatment: When displacement, or flexion of the uterus is present, it must be treated by replacement, and the use of appropriate means for keeping the organ in the normal position, by one or other of the many forms of pessary. To describe these and their appropriate uses would be a task far too long for the limits of our present paper, nor does it fall strictly within the bounds of our subject. It will be sufficient to state in this place, that while there is any inflammatory condition of the uterine structures, of the os, or cervix, the use of the pessary will be contra-indicated; but if, after the active symptoms have subsided, and the sensitiveness and painful condition of the organ is relieved, there still exists retroversion or retroflexion, these instruments will be necessary, and, if very marked, an intra-uterine stem pessary may be required. This latter, however, is to be avoided if possible, for it is often the cause of great trouble to both patient and attendant. It is no light matter to introduce a foreign body, as the occupant for some time, of so sensitive and widely connected an organ as the uterus. In ante-version it may not be necessary; rest in the supine position, and the support of a belt, may be sufficient; and in the slightest cases of prolapse, a belt and pad on the perineum often gives much relief, or the air pessary, or some of those forms which are supported by a strap between the thighs, attached to a belt round the hips. The condition of hyperæmia, and its consequent hyperplasia, are to be relieved, the first by such means as will tend to produce a more complete involution, as ergot, which may be combined with strychnia and digitalis; local blood-letting, either by scarification, by puncture, or by leeches, of the os and cervix, in the performance of which it is important not to use this means too near a menstrual period, lest you should interfere with the natural and much more



effective mode of relief. The use of saline purgatives, the sulphate of magnesia or soda, or the various natural purgative waters before enumerated, the mineral acids, the iodide of potassium, the bromides of sodium and potassium, are all of value. The patient should rest upon a hard couch, such as a hair mattress, and on a low pillow, so that the uterus may be relieved from the task of supporting a heavy column of blood. The occasional application of the glycerine pledget, vaginal douches of blood heat, or a few degrees higher (110 F.), sedatives when the pain is severe, such as at the approach of the menstrual period, suppositories (rectal), containing morphia, or opium by the mouth. *Cannabis indica* is valuable in the headache and neuralgia which is a marked feature in many cases. A combination of ext. hyoscyami and camphor is very useful as a sedative, and will often produce quiet sleep when opium seems to have lost its power. Belladonna is specially useful in tenesmus of the bladder. The preparations of iron in combination with strychnia or nux vomica, or in a case of induration of the uterine structure, with iodide of potassium. In the same condition small doses,  $\frac{1}{16}$  to  $\frac{1}{20}$  of a grain of bichloride of mercury in decoction of cinchona, or of some other tonic, has been found useful.

Rest for the organ is of the most essential consequence in the treatment of uterine disease, and yet in the case of corporeal disease, with long-continued treatment, it would be injurious to keep the patient confined to her couch; and although we may advise and require, in the more acute and rapid cases of disease of the organ, that the exercise of marital rights shall be suspended, yet it would be unwise, in a chronic and much-prolonged course of treatment, to be too rigid in enforcing this requirement. In short, we must have a little regard for the weakness of human nature, and content ourselves with regulating and limiting the indulgence, which would probably be exercised in spite of our prohibition, and without our knowledge. Counter irritation by means of blisters, applied to the cervix, by vesicating collodion, by light cauterisation with the hot iron, or by galvanic or benzoline cautery. The application of the potassa fusa cum calce is a convenient form of chemical cautery. The nitric or chromic acids, or the chloride of zinc, are also alterative means, and afford relief (even when the alterative effect upon the hardened structure of the uterus is not apparent) from many of the reflex and

hysterical symptoms which accompany this condition, and cause so much distress and trouble. In former days, it was the custom to inject solution of nitrate of silver and other stimulating substances into the uterine cavity ; but this plan is not without danger, and these solutions have found their way through the Fallopian tubes into the peritoneal cavity, with fatal results. It is better, therefore, to apply stimulant or caustic applications, by means of a probe wrapped with cotton wool soaked in the remedial agent, or its solution. In this way is applied carbolic acid, or the liquor : ferri perchlor : , or strong nitric acid, or the acid nitrate of mercury—the latter is said to have caused salivation in some cases ; but Dr. Bennett says that he “ has never seen such a result from it, and it is a favourite application of his.” The solid nitrate of silver may be applied by fusing on a probe, or the solution, of 20 to 40 grains to the ounce may be used, as directed for carbolic acid, or liquor iodi, or a saturated tincture of iodine may be used. Sometimes a bit of solid nitrate of silver is left to dissolve in the uterus, a practice not to be commended. Crayons of fused sulphate of zinc are used in the same way, but they are chiefly useful in cervical endo-metritis. Ointments of nitrate of silver ʒij, extract of belladonna ʒi, spermaceti ointment ʒij—or of acetate of lead, opium, or morphia, and cacao butter may be used and introduced into the uterine cavity by means of a kind of syringe made for the purpose ; or the os internum having been previously dilated by tents, they may be introduced in the form of suppositories, and allowed to dissolve and float over the cavity. In the fungoid condition, the use of a curette to scrape off the fungoid granulations should precede the application of the means above recounted. These cases sometimes cause profuse hæmorrhage, which can only be controlled, by the injection of the solution of perchloride of iron ; but care must be taken, that the internal os is well dilated, and that the liquid shall not be thrown from the syringe in a stream, but suffered to ooze out, drop by drop.

The last form of leucorrhœa of which we have to treat, is that which derives its origin from inflammation of the lining membrane of the Fallopian tubes. It is seldom to be seen as a distinct disease, as it cannot exist for any long period without setting up uterine endo-metritis, and becoming merged in the symptoms of that disease.

The acute form is usually an extension from the uterine cavity of



an acute and rapidly extending gonorrhæal endo-metritis, and speedily ends in peritonitis and death. The chronic condition is scarcely to be distinguished from the endo-metritis of which it is usually a concomitant condition, and the treatment is to be conducted upon the same lines. The subject is one rather of pathological than of clinical interest, and needs only to be recognised in this place. It has received the name of *Salpingitis* (σάλπινγξ—a tube),—and the distension of the tubes with pus is known as *pyo-salpinx*.

The general conditions of treatment of these leucorrhœal discharges and the abnormal conditions of the organs to which they owe their origin, including the measures of general hygiene, of diet, and position, will form the subject of our next and concluding chapter; and in ending the present remarks I do not think I can do better than quote a statement of Dr. Bennett's, that in pregnancy "inflammatory diseases once recognised should be treated exactly as in the non-pregnant woman." But it is to be borne in mind that he really means cervical disease, the true uterine cavity being inaccessible in pregnancy.

## CHAPTER VI.

### ON THE GENERAL PRINCIPLES OF TREATMENT OF LEUCORRHŒA AND THE CONDITIONS FROM WHICH IT ORIGINATES.

THROUGHOUT the whole of the previous work my readers will have noticed the recurrence of certain phrases, heading the detail of special treatment of each disease in its turn; such are the terms—*general hygiene, rest, regulation of diet, etc.*, all of which appear to require a somewhat clearer definition to render them practically useful; and as this work, it is to be hoped, will come into the hands of ladies, and young students of the subject, it will be well to devote this chapter to a more complete elucidation of the details of such management as is generally required in all descriptions of disease characterised by the symptom leucorrhœa. Under the term hygiene the ancients included six conditions as necessary to health, and these they called non-naturals; they were—*air, food, exercise, excretion, sleep, and affection of the mind*; but to these we should add *clothing and warmth*.

Under its modern sense, we mean by this term a system of rules for the maintenance of a condition of perfect health, both of mind and body. Is such a condition possible to be attained, or, if attained, could it be preserved? It would be too rash an assertion to make in the present state of knowledge and of practice, but the daily and almost hourly advance of our art, and of our knowledge of the causes of disease, makes the future bright with hope of further and near progress towards that goal. It has been said that "the life of a woman is a history of disease," and it is a saying in too many cases borne out by facts; the connection between the uterus and its appendages, and the most important and vital organs of her body is so intimate; and the natural vicissitudes to which these parts are periodically subject are constant dangers to that condition of general equipoise which we term health, and a very large, if not the largest part of the diseases from which she suffers, is that consisting of those which concern, or are in connection with the generative system. And on the other hand, so intimately are these functions involved in the whole development of the woman, that omissions or contraventions of general hygienic rules re-act at once, and in a marked manner, upon these organs and their functions. This being the fact, it becomes of the highest importance that we use all our efforts to endeavour, so far as the circumstances of the case will permit, to put the patient under a regimen such as will conduce not only to the regular performance of all the functions necessary to health, but that we impose such restrictions as may be necessary to promote the return of that condition of equipoise which has been disturbed by the operations of disease.

The modern progress of pathological knowledge has, within a comparatively short time, raised the local treatment of uterine disease to a position of commanding importance; and it is scarcely credible, that less than half a century has elapsed since it was considered necessary—by men who are happily still living—to apologise for their advocacy of local measures in these affections. Happily, all need for such a proceeding has now entirely passed away; the good results of a more exact and scientific knowledge are too apparent not to sweep away all sentimental or prudish objections to the only rational mode of verifying a diagnosis, or of discovering the source of a leucorrhœal discharge; the application of all means, whether physical or mental, within our

reach, to the elucidation of the problems which life and disease present to us. Yet we must not err in the opposite direction. The local treatment is not all, nor can the general hygienic conditions, nor a careful and judicious constitutional treatment, be safely disregarded. The necessity for rest to the weakened and irritated organs is imperative; a rest, not of mere physical abstinence from motion, but psychical, a rest from the injurious influence, and emotional storms of nervous excitement—a physiological rest—with abstinence from mental agitations, and their accompanying nervous and vascular disturbances. Thus, for a woman with a large, heavy uterus, full of blood from defective involution, the sitting posture is no effective rest, the weight of the organ still depends 'from its over-strained suspensory ligaments, or if they have already yielded to the traction it exerts, then the cervix rests against the posterior wall of the vagina, exciting irritation, and laying the foundation of ulceration and its concomitants, inflammation and induration. Therefore it is well to impress upon every woman suffering from uterine diseases, and upon every pregnant woman, the necessity of taking rest in a recumbent posture, and in cases of serious import the patient should be confined to that position. Yet with all this insistence upon the value of rest in the horizontal position, we must mix judgment with our firmness; for in chronic cases, when the disease has been long existent, and changes have taken place in the structure of the organ involved, so that any improvement must be necessarily slow and partial—in these cases, much harm may be done by too rigid persistence in the horizontal posture. In such cases, gentle locomotion, in a carriage or bath-chair, is necessary to maintain the general health, the failure of which would necessitate the failure of our local treatment.

In these cases, rest is often best obtained by change of scene, of surroundings, of habits of life, of habitual cares, anxieties and worries. The change is, perhaps, best obtained by a sea-voyage, by a course of foreign baths, or by a residence in some picturesque and interesting country district. It is in such cases as these that the various hydropathic establishments find their cures—cures, due far more to the surroundings, and change of life involved, in the residence in these establishments, than from any benefit to be derived from the particular treatment; although it must be admitted, that occasionally, and in well-selected cases, good has been done by moderate indulgence in the

various forms of baths and packings. The motto of the wise physician should be "*nihil humanum a me alienum puto*;" he should be willing to use all means that nature and art may offer, which are, in his judgment, likely to benefit his patient. Therefore it may be quite right, in certain cases, to allow, or even to advise, a residence in one of these establishments, but at the same time we should not relinquish our own judgment, and should maintain a supervision over the measures employed, so as to ensure that the well-being of the patient is not sacrificed to the enthusiasm of the special advocates of certain extreme measures in vogue in some of these places. At our British watering-places, there is less risk of injury from too venturesome treatment, and we can generally ensure that our own plan is carried out, by communication with one or other of the practitioners of the place.

Of the foreign watering-places, Kreuznach and Kissingen are the most popular with gynæcological physicians at the present day, but it may be shrewdly conjectured, that a large proportion of the good derived from the visits paid to these places is due to the effects of travelling, of the entire change of scene, and removal from the accustomed routine of home cares; of the invigorating atmosphere, and the hope always aroused or quickened by the knowledge that one is doing something, and the exhilaration of motion and variety. Still these are influences not to be despised, and if to them, we add the care of some physician of the place, we shall have the advantage of good regimen, and the waters may superadd some alterative action which will be a great and lasting benefit. But of all these measures of obtaining rest by change, there is none so thorough in its action, carrying with it so little risk of abuse, and so little liability to derangement and disappointment, as a long sea voyage in a sailing vessel. The entire change of scene, the fresh saline breezes, the delightful atmosphere—if the voyage and the time of taking it be well chosen—the entire separation from home associations, the pleasant, easy movements of the vessel (in ordinary weather, and good sea-worthy ships), render life a pleasure, and mere vitality becomes luxurious. Here, dozing in the steady trade winds, through the warm tropic seas, the ship going for days, or weeks, upon one tack, almost without moving a stitch of her canvas, the new associates making a pleasant stimulus to the exercise of social amenities, and calling for



little self-denials, too often forgotten in the self-concentration of a long illness, the long-suffering, pale, emaciated, hysterical, and morbidly sensitive patient, gradually resumes her cheerfulness, gains weight and flesh, and—her local derangements sympathising with the improvement in the general constitution—is often at the end of the voyage so altered, as scarcely to be recognised by her gratified friends and relations. The mode of taking these voyages differs with circumstances and opportunity; if a yacht is at the command of the patient's friends, that will, of course, be the most desirable means, and the voyage may then be to the Mediterranean ports, with occasional land journeys, and visits to Morocco and Algiers, and the time may be winter or early spring; but if, as will be the case in a majority of instances, such luxurious appliances and means of travel are beyond their reach, then the Australian voyage, by one of the several well-known and excellent lines of clipper ships going round the Cape, will be the one to select, and the intending traveller should not seek the ship which has made the quickest passage, but rather the one which affords in its saloon or cabins the greatest accommodation, the most airy berths, the luxuries of a bath, and a good supply of live stock, or an ice-house well stored with fresh meat, &c., and that carries a responsible and experienced surgeon.

The time best suited for the voyage is from the end of September to the middle or end of November, returning about March or April, so as to arrive home again between May and July, thus escaping the winter altogether. An incidental advantage of travel is that we may thus conduce to the physiological rest of the organs implicated, and utilise it as a means of separating the husband and wife for a sufficiently lengthened period to allow the freedom from excitement, which can scarcely be avoided in matrimonial life, to produce a beneficial effect.

We have already spoken of the evils brought about by tight-lacing, and for the attainment of a perfect condition of rest, it is necessary that there shall be no constriction pressing down the uterus out of its normal position, and so leading to irritation and distress.

The weight of the garments should not be suspended from the waist, nor even from the shoulders, for in the young and weakly, even that point of suspension may lead to deformity, and even still greater evils.

The outlines of the female figure widen over the hips to the trochanters (the projecting extremities of the thigh bone) at the hip joint, and the wide-spreading iliac bone forms the true "point d'appui" from which should be suspended the heavy petticoats which form the clothing of a woman's lower limbs. When the garments are suspended from the shoulder, as in certain contrivances which have had the recommendation of several foreign writers upon the subject, they are apt, wherever there is a tendency to stooping shoulders or contraction of the chest, to aggravate that evil tendency, or in the weakly to produce it "de novo ;" but fixed upon the rigid iliac bones, and prevented by the projecting trochanters from slipping lower, they have at once a firm attachment, and are placed in the very best position for carrying off their weight with ease and comfort. A soft bodice, with shoulder straps ending in a broad belt fitting over the hips and fastened by laces, is probably one of the best means of attaching these garments, and if the laces are not too tightly drawn is entirely free from objection. The body flannels should be fine soft flannel, or if this cannot be borne, on account of the irritability of the skin, then silk ; if this alone should not give warmth sufficient for particular parts, or on special occasions of exposure to great cold, the fine flannel may be worn over the silk. The underclothing, whether silk or woollen, worn during the day-time, should be removed at night, and fresh well-aired garments of similar material worn for the night, while the day garments should be thoroughly dried and aired before the fire, and put on again warm and dry in the morning.

The bath must be, according to the strength of the patient and her vascular power of reaction, either cold or tepid, or, what is often more agreeable and better borne than either, first a douche, or sponge filled with warm water, followed by a quick sponging with cold water, and instantly dried and scrubbed with hot towels till the skin is glowing and a feeling of comfort and freshness succeeds. The room which a patient inhabits, either by night or day, should be airy and allow of free ventilation, and, whenever the weather will permit, she should take such exercise as her condition will allow in the open air. She should not sit in hot crowded rooms, and should avoid all such engagements as will lead to them ; and, if even confined to bed, the window should be opened widely for two or three hours a day, except perhaps in the depth of winter, and then, if possible, she should change into another room for some hours while her chamber is aerated.

The diet should be simple, nutritious, and unstimulating—avoiding especially all spices, aromatics, or stimulating condiments—milk, eggs, fish, fowl, tripe, oysters, rice, sago, tapioca, beef, mutton, rabbits, bacon ; in short, it is easier to form a list of those articles which are undesirable, or likely to disagree, than to enumerate all the aliments that are permissible. It will then, be well to avoid, among fish, all shell-fish except oysters, and perhaps cockles—all the coloured fish, such as salmon, sturgeon, &c., but the white fish are all permissible ; soles, turbot, brill, and halibut, are very good and nutritious ; whiting, cod, ling, are more watery and less nutritious, but very light and easy of digestion ; eels, when stewed, are nutritious, and if properly cooked not likely to disagree, but eel pie and fried or roast eels should be avoided ; mullet, red or grey, are allowable, so are gurnet, but mackerel are not to be permitted.

Of meat, pork and veal are to be avoided, though bacon is allowable.

Poultry and game (except hare, which is dangerous) may be permitted ; geese and ducks are risky.

Pastry is to be avoided, but the fruit from the inside of a fruit pie may be taken, and stewed fruit, if not stone fruit.

Cheese is likely to disagree ; it should be taken sparingly and with great caution.

Beverages : The light wines of France and Germany may be allowed, if the patient is desirous of some such refreshment ; but they are not necessary parts of the diet, and the same may be said about stout, or porter, or ale ; a draught of light bitter ale, or of well fermented natural wine, or a glass of good stout, are of value occasionally ; and when a patient has been accustomed to such indulgences, the loss of them might be followed by undesirable results, perhaps quite as much mental as physical ; but the reaction in these cases is so intimate and so direct that it cannot be overlooked, nor its importance exaggerated. Nevertheless I would say boldly, that in the majority of cases of this kind alcohol in any form is unnecessary, and in some, its imprudent prescription has led to lamentable consequences.

Milk, and especially a preparation of milk called koumiss, is very valuable in such cases : this is often capable of retention by the irritable stomach when almost everything else is rejected. This



preparation is slightly laxative in the recently prepared condition, but after the lapse of some week or ten days, it gradually becomes more acid, loses this property, and becomes more stimulating; three varieties are known in commerce—1, 2, or 3 koumiss; the higher the number, the older and more acid is the koumiss.

Tea, being a strong nervine stimulant, is to be avoided; coffee too, frequently disagrees, producing acid eructations; cocoa is, perhaps, the best drink of the series, but, as ordinarily met with, it usually contains too great a proportion of fatty matter to be agreeable to, or to agree with, the patient whose stomach is delicate, or one of a bilious constitution. To avoid this, many makers mix the ground pulp of the roasted nut with a large proportion of arrowroot, or other starchy base, and so form what are called the homœopathic cocoas—though why they should be so named is beyond the wit of a plain man to conceive—and thus in some degree remedy the evil; but it is at the expense of sacrificing the fluidity of the resulting cocoa, and produces a thick gruel, which is to many stomachs anything but acceptable. Of late years, however, the nuts have been subjected to hydraulic pressure, and a great part of the fat (the cacao butter of commerce) is thus pressed out, and the residue being ground, forms what has been called “essence of cocoa,” which makes a thin, pleasant, and refreshing beverage, of considerable nutritive, as well as stimulant value.

It must, however, be borne in mind, that variety and change is an essential element in dietary arrangements; for the sake of variety, a substance less nutritive, or less easy of digestion, may yet be practically preferable to an unvarying recurrence of more theoretically perfect food.

The various points of which I have treated in the pages immediately preceding having received their full attention, we may well add to these the therapeutic action of certain drugs; thus, if we have as concomitant conditions dyspepsia or anæmia, we must endeavour to relieve these symptoms and remedy the disordered functions, which, having probably arisen from the general disturbance consequent upon sympathetic and reflex nervous derangements, persist as a habit, even although the original irritation be removed. For this purpose, we may prescribe the mineral acids, with vegetable bitters, or quinine with *nux vomica*, or if there be anæmia, some of the preparations of iron



in combination with one or other of these, or if there is much nervous disturbance, the bromide of potassium or ammonium, or a combination of one or both of these with belladonna, may be useful ; of course also there are cases in which some of the elegant syrups for which pharmacy is indebted to America, may have their place in our armatory, and the cod liver oil may be useful in both its capacities—those of food and medicine. These are details we have already mentioned in considering the special treatment of the several diseases to which leucorrhœas are due, and need not be again gone into at greater length ; as our time may be more usefully directed to a description of those local applications, and modes of treatment, which must always be largely left for their practical application to the patient and her immediate attendants.

A good deal of tact and delicacy is required for the successful conduct of these cases of uterine disease. The physician may be thoroughly expert in his particular branch of medical science ; he may have made a perfectly accurate diagnosis ; his treatment may be in its indications, all that the case requires, and yet his mode of application may be such as to shock the delicacy, or, it may be, the prejudices, of his patient, and he may therefore utterly fail in gaining her confidence, or securing her co-operation, without which it will be impossible for him to bring the case to a successful issue. Above all, the physician should never either himself deceive, or allow others to deceive a patient with hopes and expectations, which cannot in the very nature of the case be fulfilled. The friends of a patient suffering from some chronic disease of the uterus, will often, after it has been a long period utterly neglected, suddenly awake to its importance, and hurrying her away to some physician of whom they may happen to have heard a good account, will attempt to persuade her, and try to get him to join in the attempt, that the treatment will be speedy, painless, and short.

To give way, in any degree, to this flattering view in such cases, is almost certain to sow the seeds of dissatisfaction and failure, not only for himself, but too often for those who succeed him ; the false hopes thus raised, only to be dispelled, produce a scepticism which re-acts upon all her future relations with the profession, and prevents that hearty and thorough confidence and co-operation which, when it exists, is so great an assistance towards the realisation of the looked-for

end. Again, the careless employment of indelicate or disgusting manipulations will often offend the feelings of a refined and sensitive woman, and lead her to turn away, not only from the means, and the particular man, but even from the art itself, preferring to suffer her lot unassisted, rather than to be the subject of thoughtless, and perhaps needless exposure. When it is absolutely necessary for purposes of diagnosis, or for the proper application of remedial agencies, the fullest exposure is permissible, and will very rarely be objected to ; but unnecessary and too frequent recourse to this will frequently arouse feelings of dislike in the patient, which will have the very worst effect upon the medical man's success, and not unfrequently lead to the loss of his patient. Many of the manipulations required in these cases, as the introduction of the speculum, &c., may be done without any exposure of the surface of the body, and such an operation as the passing of the catheter should also be done in this way. Again, such measures, for instance, as filling the vagina with linseed flour, and other equally objectionable modes of treatment, are likely from their very nature to disgust a delicate, and it may be fastidious lady, and not likely to lead to any creditable results, or to be satisfactory either to the patient, or the physician. It is even better to avoid the use of coloured lotions for these purposes, when we can produce the same result without colouring matters, for many women have a prejudice against the use of coloured injections, and whenever possible, we should endeavour to avoid opposing even the prejudices of our patients.

A large and very useful part of the treatment of leucorrhœa consists in the vaginal douches and injections, applied twice, or thrice a day, by the patient herself, or with the assistance of an attendant. These may be applied in several ways ; the old plan of using a large glass or vulcanite syringe is very unsatisfactory, the stream of water being rarely sufficient, and seldom reaching the inflamed surfaces. The most useful and efficient instrument for the purpose is "Higginson's Syringe," a tube of india-rubber, with a hand-ball in the centre, with valves, by alternate pressure and relaxation of which, a stream of water, or other fluid, can be directed against any part of the vagina or cervix-uteri ; the instrument is supplied with a vaginal tube and shield, which enables the patient to reach the higher parts of the vaginal cavity, and the pouch of Douglas—a part which it is often of extreme importance to wash, and submit to the action of remedies ;

it also carries a rectum tube, and can be used as a rectal enema, a property which makes it altogether an extremely useful instrument in a household. Whatever the means adopted, the patient should lie upon her back, with her buttocks raised, so that some of the fluid employed shall be retained within the vagina for a time, and of course the bedding should be protected by a waterproof sheet. The materials for vaginal injections vary with the nature of the affection upon which the leucorrhœa depends; mere warm water has an excellent effect in congestive condition of the uterus, and when there is sub-involution, an alternation of warm and cold douches is often of great value. In the chronic vaginal and cervical leucorrhœa astringent, or stimulant, or antiseptic injections, are of advantage; but it must be borne in mind, that, before using these, the passages are to be cleaned and cleared of the often tenacious mucus, or purulent discharges, by previously injecting a stream of warm or tepid water. Of the soothing and antiseptic agents employed for the purpose, "*borax*" occupies the most distinguished position; its alkalinity and blandness, make it soothing and grateful in use, and its antiseptic properties are often valuable; it may be used in the proportion of  $\frac{3}{4}$  i. to a pint, or, if required, the proportion may be largely increased. Glycerine, in the proportion of an ounce to a gallon, may be added to the solution; or instead of simple water, an infusion of linseed, slippery elm, or poppies may be used, or there may be added, if the symptoms require, laudanum, hyoscyamus, or conium, the latter in the form of tincture or infusion. The warm water irrigation may also be used by the patient, with the Higginson's syringe, while lying in a warm bath—a very convenient and useful mode of application. It has been advised that the patient should sit over the vapour of hot or medicated waters, on the supposition that the vapour will make its way to the vagina and uterus, but this is a very forlorn hope; if such applications be desired, they are better attained by insertion of sponges or tampons, soaked with the required medicaments. In this way Scanzoni has advised the application of various anodyne, or anæsthetic solutions. The cases in which this mode of application is desirable, and the particular substances to be used in this manner, may be left to the experience of the practitioner, and the demands of the particular case. It would occupy too much time, at this stage of our work, to go into the full particulars, but it may be suggested that the

vapour of chloroform or æther, the solutions of conium, hyoscyamus, or morphia, the stimulus of the vapour of carbolic acid, or of turpentine, may be used in this way. When it is desired to use a stimulant, or astringent injection, we may add tannin, or sulphate of zinc, or alum, to the water, and in some cases the dilute liquor plumbi is a valuable and soothing application, but it must not be forgotten that it will stain all linen upon which it may fall. Weak solutions of carbolic acid, or tar water, may be used, not only when there is fœtor, but as a stimulant or alterative; but, as a rule, these astringent, stimulant, or alterative applications, are best made directly to the uterine structure, whether of the cervix, or of the cavity, of the uterus proper. For this purpose, Dr. Braxton Hicks introduced a sort of cervical bougie, or crayon of fused sulphate of zinc, and the principle has been extended to other drugs, but its use is confined to the cavity of the cervix; if introduced and left in the cavity of the uterus itself, these cause irritation and sometimes very troublesome symptoms. These applications are best made to that cavity in strong solution, with the probe wrapped with cotton wool, or the solid nitrate of silver with a probe, coated by fusing, or by a stick held in forceps, or a specially made holder. Sometimes it is convenient to use these remedies in the form of ointments, made with a base of vaseline, or of gelatine dissolved in glycerine, and pushed through a tube by a piston, so as to facilitate their introduction to the proper cavity.

The application of sponge tents, impregnated with the various solutions we have so often mentioned, has a value in cervical disease, apart from its action as the bearer of the drug; the pressure excited on expansion has a very marked alterative action upon the tissue of the neck of the uterus, and upon the mucous membrane which lines it, and this is a favourite and very effective mode of applying our remedies.

The injection of fluid, in large quantity, into the cavity of the body of the uterus, is not without danger; cases have occurred, where the fluids so injected have found their way along the Fallopian tubes, and set up fatal peritonitis, and whenever we may consider that such an application is really necessary, we must be careful previously, to fully distend the canal of the cervix and the os internum, that there be no obstruction to the free return of the fluid, without exercising any pressure upon the openings of these channels.



When there is pain, and we desire the local effect of morphia, hyoscyamus, &c., it is better to use rectal suppositories, than vaginal applications. The use of hypodermic injections is also very marked in uterine disease. A pill of ext. hyoscyam. grs. ii, camphor gr. i, has a soothing and calmative effect in the restless hysterical condition which often robs the patient of sleep; and cannabis Indica has a considerable repute, but my own experience, which may perhaps be exceptional, is that either the drug is very difficult to get in an active state, or, that in ordinary doses, it is almost inert.

In the hyperplastic condition which sooner or later succeeds chronic uterine inflammations, the use of the waters of Woodhall Spa, near Horncastle, Lincolnshire, has had beneficial effect; and the effect of a visit and course of baths at the establishment there might be very well tried, as a comparatively costless and short journey; and in the composition of the waters, quite as likely to be of benefit as the more distant and costly Kreuznach.

Thus we have reviewed, very briefly, but in as clear and concise a manner as the nature of the subject, and the means at our disposal, will allow, the principal causes of the various forms of leucorrhœa, and the general lines of their treatment. We now come to consider what is likely to be the practical outcome of our knowledge. It must be admitted by all, that our knowledge of the nature and causes of uterine diseases has made great and rapid strides during the last thirty or forty years, and much of that improvement is due to the works of Dr. J. H. Bennett, who first pointed out the nature and seat of cervical leucorrhœa. It was no slight thing,—to mention but one of many of his claims upon our gratitude—to point out the difference between the cervical and true uterine cavities, a distinction which has an all-important bearing upon the prognosis of uterine inflammation. We must not neglect either to acknowledge the debt due to inquirers whose names and reputation are household words in our own neighbourhood, for to the researches of Dr. James Whitehead and his laboriously collected facts, first published in 1847; to the therapeutic introductions of Dr. Lloyd Roberts, and particularly, to that of the application of carbolic acid, one of the best and most painless caustics yet found for uterine purposes, and to the widely extended experience of Professor Thorburn, to whose admirable teaching I must, as one of his pupils, acknowledge my great indebted-

ness ; the profession owes a debt of knowledge, and the female public one of gratitude. And it is largely due to these and other enthusiastic and industrious labourers in the gynœcological field, that we can afford a brighter outlook and a more favourable prognosis, founded upon a sounder and more accurate knowledge, to our patients, than could our fathers and predecessors to their sisters of the last generation. We may say boldly, that if an inflammatory affection of any part below the os internum is recognised, before hyperplastic changes have taken place in the structure of the uterus itself, we may hold out hopes of cure within a reasonable period, and even if there has been already parenchymatous thickening, still if we can make sure that the affection does not involve the structure of the body of the uterus, above the os internum ; then we may still promise an eventual restoration to health, but the period will be uncertain. If, however, the morbid action exist above this line, even if it only involves the mucous surface, the case will be much more uncertain. Perhaps cases of inflammation of the body of the uterus have recovered entirely, but the result will always be doubtful, and at the best, effected with much difficulty.

In concluding the task which I have set before myself, I cannot help the feeling that I have but unravelled the fringe, but touched upon the outskirts, of the great subject of uterine pathology, and have left utterly unnoticed numbers of severe and important affections which do not come within the scope of my intent, simply because they are not associated with leucorrhœa, except as a secondary, and not essential symptom. To have treated of the great field of uterine tumours, or displacements and flexions, to say nothing of ovarian and tubal diseases, would have been to enlarge this work beyond the limits which I had placed upon myself and the publishers, and would thereby have defeated one great object which I had in view, that of placing before the young student a short and clear resumé of the present state of knowledge. In the present day, the title of "student" may be considered epicene, and include both sexes, and is not necessarily to be confined to those who have solemnly devoted themselves to the healing art as a profession, but may be enlarged to include those intelligent women, who themselves are, or may be, the subjects of these troublesome affections, and who desire to have some little trustworthy information of their nature, causes, and treatment.

If I have succeeded in this very humble aim, I shall be content, and if by timely warning or caution I have succeeded in saving even if it be a single one of the thousand sufferers from these causes from the neglect which often permits these diseases to run unchecked, into a chronic and almost incurable condition, I shall have received my reward.

FINIS.







